REDACTED VERSION OF DOCUMENT SOUGHT TO BE SEALED

Redacted in its Entirety

REDACTED VERSION OF DOCUMENT SOUGHT TO BE SEALED

Redacted in its Entirety

103 JEN 22 FOR THE EASTERN DISTRICT OF TEXAS

EASTERN DISTRICT MARSHALL DIVISION

FILED

U. S. DISTRICT COURT

EASTERN DISTRICT OF TEXAS

JAN 22 2003

DAVID MALAND, CLERK By Deroute Mule

CISCO SYSTEMS, INC. AND CISCO TECHNOLOGY, INC.

Plaintiffs.

v.

HUAWEI TECHNOLOGIES, CO., LTD., HUAWEI AMERICA, INC. AND FUTUREWEI TECHNOLOGIES, INC.,

Defendants.

CIVIL ACTION NO. [2-03C v -027

COMPLAINT AND JURY DEMAND

United States District Court
Northern District of California
Case No. 14-cv-05344-BLF
Case Title Cisco Systems v. Arista Networks
Exhibit No. 4671
Date Entered
By

For its complaint against Defendants Huawei Technologies Co., Ltd. ("Huawei"), Huawei America, Inc. ("Huawei America") and FutureWei Technologies, Inc. ("FutureWei") (collectively "Defendants"), Plaintiffs Cisco Systems, Inc. ("Cisco Systems") and Cisco Technology, Inc. ("Cisco Technology") (collectively "Cisco") allege as follows:

I. NATURE OF THE ACTION

1. This is an action arising from Defendants' systematic and wholesale infringement of Cisco's intellectual property. Huawei, a Chinese company, and its wholly owned United States subsidiaries, Huawei America and FutureWei, manufacture and offer for sale a line of network routers designed to compete with Cisco's network routers. Unlike Cisco, however, which invested substantially in the development of its own proprietary router technology and software, Huawei has chosen to misappropriate and infringe Cisco's intellectual property in an attempt to develop a cheaper, inferior router which Huawei claims is compatible with Cisco's routers. In doing so, Huawei and its U.S. subsidiaries have shown a complete disregard for Cisco's intellectual property rights and the laws which protect those rights. The extent of Defendants' copying and misappropriation of Cisco's intellectual property is

staggering. Defendants have copied Cisco's patented technologies; they have copied the copyrighted user interface for Cisco's routers; they have made verbatim copies of whole portions of Cisco's user manuals; and there is overwhelming evidence that they unlawfully gained access to Cisco's source code and copied it as the basis for the operating system for their knock-off routers. Cisco brings this action to enjoin this wholesale theft of its valuable intellectual property and recover the substantial damages it has incurred from Defendants' illegal conduct.

II. PARTIES

- 2. Cisco Systems is a California corporation with its principal place of business in San Jose, California. It is a worldwide leader in the development, manufacture and sale of computer networking products.
- 3. Cisco Technology is a California corporation with its principal place of business in San Jose, California. Cisco Technology is a wholly-owned subsidiary of Cisco Systems.
- 4. On information and belief, Huawei is a foreign corporation with its principal place of business in the Peoples Republic of China. It is a multi-billion dollar company that conducts business throughout the world in the manufacture and sale of network and telecommunications equipment. On information and belief, Huawei conducts business in this judicial district through FutureWei and/or Huawei America.
- 5. FutureWei is a corporation organized and existing under the laws of the State of Texas with its principal place of business at 1700 Alma Drive, Plano, Texas. On information and belief, FutureWei is a wholly owned subsidiary of Huawei. FutureWei is present in and conducts business in this judicial district. In addition to its Plano office, FutureWei also maintains offices in San Jose, California and Reston, Virginia. FutureWei's registered agent is:

Rongxin Chong 1700 Alma Drive, Suite 500 Plano, Texas 75075 6. Huawei America is a corporation organized and existing under the laws of the State of California with its principal place of business in San Jose, California. On information and belief, Huawei America is a wholly owned subsidiary of Huawei. Huawei America is present in and conducts business in this judicial district. In addition to its San Jose office, Huawei America also maintains a sales office in Plano, Texas. Huawei America's registered agent is:

James Yan 3772 Sun West Terrace Fremont, CA 94555

III. JURISDICTION AND VENUE

- 7. Defendants transact business and are found in this judicial district through regular business conduct and activity that includes, among other things, the following:
- a. Huawei offers for sale in this district the network routers and related software which are alleged in this action to infringe Cisco's intellectual property rights.
- b. Huawei already has made commercial sales in the United States of the network routers which are alleged in this action to infringe Cisco's intellectual property rights, including sales originated from the sales office in Plano, Texas.
- c. Huawei and FutureWei each operate a website for the purpose of promoting Huawei products, including the network routers, switches and other network products that use the software alleged to infringe Cisco's intellectual property rights. The Huawei and FutureWei websites can be accessed by customers, potential customers and others located in this district for information about the allegedly infringing routers and other Huawei products, as well as employment opportunities with Huawei's interests in the United States. The infringing computer software created by Defendants through the violation of Cisco's rights, referred to as "VRP," and the infringing user manuals created by Defendants through the violation of Cisco's rights can be downloaded by residents of this district through the Huawei website.

- d. Huawei operates a research and development facility in this district, in Plano, and has actively recruited residents of this district and elsewhere for employment at that facility.
- e. Huawei has incorporated a subsidiary in Texas (FutureWei) for the purpose of doing business in the United States. The FutureWei sales office in Plano, Texas promotes and sells the infringing routers which are the subject of this action and otherwise conducts business in this judicial district.
- f. Huawei has created a California subsidiary (Huawei America) for the purpose of doing business in the United States. Huawei America also maintains a sales office in Plano, Texas, through which it regularly engages in activities to promote and sell the infringing routers and otherwise conducts business in this judicial district.
- g. Huawei, FutureWei and Huawei America are accused of committing a number of illegal acts and infringements of Cisco's intellectual property, the harmful effect of which is felt in this judicial district where Cisco sells a substantial volume of products and maintains a substantial research and development facility.
- 8. The Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331, 1338(a) and (b), and 1367 and the doctrine of supplemental jurisdiction.
- 9. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391 and 1400 because (1) Huawei is a foreign corporation subject to personal jurisdiction in this district, (2) Defendants reside and may be found in this judicial district, (3) the acts of infringement and misappropriation alleged herein were committed in this judicial district, (4) Defendants have a regular and established place of business in this district, and/or (5) a substantial part of the events giving rise to the claims occurred in this judicial district.

IV. FACTUAL BACKGROUND

10. Cisco provides a broad line of hardware and software solutions for transporting data, voice, and video over networks and throughout the Internet. Included in the equipment Cisco provides are network routers, switches, and devices that enable data and

information to be transported from one network to another – locally, regionally and internationally. Routers and switches are the backbone of Internet traffic, routing packets of data as they are transported from sender to recipient. For example, the transmission of an email message from Dallas, Texas to Hong Kong will pass through multiple routers or switches as the packets of information comprising the message pass from one network to another. The science of routing packets of data through networks is complex and challenging and requires tremendous innovation and technological development to assure that messages are sent quickly and securely and arrive at their intended destination. As a pioneer in this area, Cisco has achieved widespread renown for the technological superiority, convenience and security of its routers, which in turn has facilitated the amazing growth of computer networks and the Internet.

- substantial research and development investment. As a result of its endeavors, Cisco has created valuable intellectual property in the form of patents, copyrights, trademarks and trade secrets that protect the valuable technology it has created. Cisco is the owner of a number of key patents covering the operation of its routers and the particularized manner in which they function. One of the core technologies contained in every Cisco router is called the Cisco Internetwork

 Operating System ("IOS Software Programs"), a proprietary computer program that manages the routing of packets through the router or switch. The IOS Software Programs are the product of countless man-hours of software design and programming by Cisco employees and contractors.
- 12. Defendants recently introduced for sale in the United States a line of routers referred to as "Quidway routers" which, on information and belief, it has promoted as operating virtually identically as Cisco routers but costing less than Cisco routers. On information and belief, Huawei sells the same or similar infringing routers in a number of foreign countries, the exact identities of which Cisco expects to learn through discovery. On information and belief, Defendants promote their Quidway routers by claiming they can replace a Cisco router without any loss of performance or security. While Defendants' claim of interoperability are dubious, it is apparent that in their attempt to produce a Cisco "clone," Defendants engaged

in wholesale theft of Cisco's intellectual property. That theft includes the adoption of Cisco's patented processes, the systematic copying of Cisco's copyrighted Command Line Interface, the copying of Cisco's proprietary IOS source code, and the systematic copying of Cisco's user manuals. Huawei's Vice President, Fei Min, recently admitted that "all the world's leading equipment suppliers are our learning models." The evidence shows unequivocally that the "learning" was in fact blatant copying and misappropriation, undertaken in complete disregard of Cisco's intellectual property rights.

Cisco's Copyright Protection.

- 13. Cisco Technology has duly recorded in the United States Copyright Office registrations protecting Cisco's IOS Software Programs, its Command Line Interface, and its User Manuals. Cisco Technology is the owner of the registered copyrights in each of the following computer programs and their corresponding user manuals, each of which substantially consists of original material (hereafter referred to as "Cisco's Copyrighted Works"). The following Cisco's Copyrighted Works consist of their respective computer code ("IOS Software Programs"), the Command Line Interface and corresponding screen displays ("CLI"), and the corresponding IOS user manuals ("IOS Manuals"):
 - a. Cisco Internetwork Operating System Version 11.0, Reg. No. TXu-1-036-057 (Ex. A)
 - b. Cisco Internetwork Operating System Version 11.1, Reg. No. TXu-1-048-569 (supplementing TX-5-531-435) (Ex. B)
 - c. Cisco Internetwork Operating System Version 11.2, Reg. No. TXu-1-036-063 (Ex. C)
 - d. Cisco Internetwork Operating System Version 11.3, Reg. No. TXu-1-036-062 (Ex. D)
 - e. Cisco Internetwork Operating System Version 12.0, Reg. No. TXu-1-036-064 (Ex. E)

- f. Cisco Internetwork Operating System Version 12.1, Reg. No. TXu-1-036-066 (Ex. F)
- g. Cisco Internetwork Operating System Version 12.2, Reg. No. TXu-1-036-065 (Ex. G)
- 14. For each of the foregoing works, Cisco Technology complied in all respects with the Copyright Act and all other laws of the United States governing copyrights, and has received Certificates of Registration from the Register of Copyrights.

Copying of Command Line Interface.

- "Command Line Interface" or "CLI." The CLI is the user interface by which users of Cisco routers communicate with the routers. Just as a computer user must communicate instructions to a computer (e.g., copy a file), the Information Technology ("IT") manager must communicate with routers in order to configure and manage them. For Cisco routers the interaction between the IT manager and the router is facilitated by a unique Command Line Interface, an elaborate structure of textual commands that the IT manager must learn in order to "talk" to the router. Each command corresponds to a function that can be performed by the router. When the command is entered by the human operator, the router performs the function associated with that particular command.
- 16. Cisco's CLI is a unique, expressive work that has been developed over many years of creative endeavor. Other manufacturers of network routers have their own command line interfaces that differ from Cisco's, both in terms of the particular commands and in the organization of those commands. When developing a router interface, the software developer has a range of creative choices in deciding what textual commands to compose, the definitions assigned to the commands, and the overall structure of the interface. Cisco's CLI represents its own original expression of one way to provide this communication.
- 17. Defendants have engaged in wholesale copying of Cisco's CLI. Because the CLI can be visually observed during the operation of a router and is published in Cisco's user

manuals, Defendants would have had no difficulty in gaining access to the CLI. A comparison of the command line interface of the operating system for the Quidway routers, switches and other products that use VRP, and Cisco's CLI reveals repeated incidents of slavish copying. For example, the following chart shows two of the many areas in which commands were copied by Defendants.

CISCO'S IOS HSRP Commands

standby authentication

standby ip

standby preempt

standby priority

standby timers

standby track

standby use-bia

standby mac-address <address>

show standby

debug standby

PQ Commands

priority-group

priority-list default

priority-list interface

priority-list protocol

priority-list queue-limit

show queuing priority

debug priority-queue

DEFENDANTS' VRP

HSRP Commands

standby authentication

standby ip

standby preempt

standby priority

standby timers

standby track

standby use-bia

standby use-ovmac

show standby

debug standby

PQ Commands

priority-group

priority-list default

priority-list interface

priority-list protocol

priority-list queue-limit

show queuing priority

debug priority

an IT manager familiar with the Cisco CLI would not have to be re-trained in order to operate one of Huawei's Quidway routers, switches or products that use VRP. As a result of its extensive copying of the Cisco CLI, Defendants can promote their Quidway routers, switches and products that use VRP by convincing Cisco customers that they will not have to learn a new command line interface if they purchase Defendants' products. On information and belief, Defendants have informed customers that IT managers familiar with Cisco routers will not need additional training to manage Defendants' products. As one Huawei distributor declared, he was "impressed by the ability of a Cisco-trained engineer to take a Huawei product out of the box and use it." By choosing copyright infringement over independent development, Defendants are attempting to compete with Cisco by stealing Cisco's innovations instead of creating their own as well as avoiding the process of training potential users in a separate interface.

Copying of IOS Source Code.

- 19. Cisco is informed and believes and therefore alleges that Defendants have copied substantial portions of the IOS Software Programs source code. The operating system for the Quidway routers is known as "VRP," which stands for Versatile Routing Platform. The VRP program contains telltale similarities to the IOS Software Programs indicating that Defendants had access to the proprietary IOS Software Programs source code and used some or all of the source code in the creation of VRP.
- 20. The IOS Software Programs source code contains thousands of "text strings," distinctive textual statements written into the software by the programmers to convey information about the tasks to be performed by the software. Software which is independently developed will have unique text strings organized in a unique sequence or order. An analysis of Defendants' VRP code reveals that it contains large portions of text strings that are identical or substantially similar to the text strings from the IOS Software Programs, both in terms of the phrasing of the text strings and the sequence in which they appear. This level of identicality cannot be explained by either coincidence or independent development on the part of Huawei. It

points inescapably to one conclusion: Defendants had access to Cisco's proprietary IOS source code and copied that source code in the creation of Defendants' VRP.

- 21. At various points in time, the IOS Software Programs have had minor bugs that do not affect the fundamental functions of the program but represent idiosyncratic ways in which the program was written. Because they stand as unusual anomalies, these bugs serve as telltale fingerprints if they appear in other computer programs. Just as a school teacher can determine copying from the existence of a shared mistake among student papers, Cisco has discovered the presence of a "bug" in the Defendants' VRP software, which can only be explained by Defendants' unlawful access to and use of the IOS Software Programs source code.
- 22. Cisco has never made its IOS source code available to Defendants nor has it ever authorized anyone else to do so. Cisco is informed and believes and therefore alleges that Defendants obtained access to Cisco's IOS source code or portions thereof by improper means, that Defendants had reason to know that the source code was confidential to Cisco, and that Defendants had reason to know that their access to the source code was not authorized by Cisco. On information and belief, Defendants have exercised dominion and control over Cisco's IOS source code, which is in the form of one or more computer files (i.e., one or more documents), in an unlawful and unauthorized manner to the exclusion of and inconsistent with Cisco's rights. Defendants' possession of Cisco's IOS source code is tantamount to a refusal after demand. Copying of Cisco's User Manuals.
- 23. Cisco provides the IOS Manuals to its customers to assist them in the operation of Cisco's routers. These manuals describe in detail the operation of the Cisco routers, the CLI and how to configure the routers for use in network operation. Cisco has invested thousands of man-hours in the preparation of the IOS Manuals, each of which is protected from unlawful copying under the Copyright Laws of the United States and other countries.
- 24. Defendants make available to customers and prospective customers user manuals that explain the function of its Quidway routers, switches, and other products that use VRP. In creating Defendants' user manuals, Defendants have copied extensively from the IOS

Manuals. In many cases, Defendants have copied whole paragraphs of text from the IOS Manuals, sometimes changing a word here or there in an attempt to mask their flagrant plagiarism. Defendants also have copied the organization and structure of the IOS Manuals so that the overall appearance of Defendants' manuals is substantially similar to the IOS Manuals. Attached as Exhibit H is an example of Defendants' copying of Cisco's copyrighted user manuals.

Patent Infringement.

25. In addition to the unlawful conduct described above, Defendants also have infringed Cisco's patented processes and methods in their attempt to create a router that replicates the functionality of Cisco's routers. In particular, Defendants have infringed no less than five Cisco patents through their incorporation of patented and proprietary Cisco technology in Quidway routers, switches, and other network devices that use VRP. These infringements were blatant and willful and were part of Defendants' overall plan to misappropriate Cisco's technology.

Adoption of Cisco's Nomenclature and Model Numbers.

- 26. In addition to the theft of Cisco's technology, Defendants have taken steps to mislead customers into believing that their Quidway routers are comparable to and completely interchangeable with Cisco routers.
- 27. Defendants have adopted a product numbering scheme for their router products that is substantially the same as Cisco's numbering scheme. Defendants have adopted other Cisco nomenclature as well, such as Cisco's acronym for its security products (i.e., "SAFE"). Huawei refers to its security products as SAFE. The title Cisco applies to engineers who are certified in operating Cisco's routers, "Certified Cisco Internetworking Experts" or "CCIE" has also been appropriated by Defendants in their use of the term "Huawei Certified Internetworking Experts" or "HCIE." Given the wide range of model numbers and nomenclature from which Defendants could have chosen, their decision to mimic Cisco's naming conventions is further evidence of Defendants' unlawful scheme to knock off Cisco's technology and mislead

customers into believing that the products are interchangeable without any loss of performance, security or reliability.

V. COUNT ONE

(Patent Infringement—'032 Patent)

- 28. Plaintiff Cisco realleges and repeats the allegations of paragraphs 1 through 27 above.
- 29. On February 11, 1992, the United States Patent and Trademark Office duly and legally issued United States Letters Patent No. 5,088,032 (the "'032 patent") entitled "METHOD AND APPARATUS FOR ROUTING COMMUNICATIONS AMONG COMPUTER NETWORKS." Cisco Technology holds legal title to the '032 patent. By virtue of a license, Cisco Systems has all substantial rights in the '032 patent, including the right to sue for infringement of the '032 patent.
- 30. Defendants have been and are infringing the '032 patent within this district and elsewhere in the United States by making, using, selling, importing, distributing or offering for sale products that infringe one or more of the claims of the '032 patent.
- 31. Defendants are contributorily infringing the '032 patent within this district and elsewhere in the United States by making, using, selling, importing, distributing or offering for sale in the United States materials and/or apparatus for use in practicing the inventions set forth in the '032 patent, that they know to be especially made or especially adapted for use in infringement of the invention embodied in the '032 patent. On information and belief, these materials and/or apparatus have no substantial non-infringing use in commerce.
- 32. Defendants are inducing infringement of the '032 patent within this district and elsewhere in the United States by instructing in the use of materials and/or apparatus that infringe one or more of the claims of the '032 patent.

VI. COUNT TWO

(Patent Infringement—'599 Patent)

- 33. Plaintiff Cisco realleges and repeats the allegations of paragraphs 1 through 32 above.
- 34. On December 5, 1995, the United States Patent and Trademark Office duly and legally issued United States Letters Patent No. 5,473,599 (hereinafter the "599 patent"), entitled "STANDBY ROUTER PROTOCOL." Cisco Technology holds legal title to the '599 patent. By virtue of a license, Cisco Systems has all substantial rights in the '599 patent, including the right to sue for infringement of the '599 patent.
- 35. Defendants have been and are infringing the '599 patent within this district and elsewhere in the United States by making, using, selling, importing, distributing or offering for sale products that infringe one or more of the claims of the '599 patent.
- 36. Defendants are contributorily infringing the '599 patent within this district and elsewhere in the United States by making, using, selling, importing, distributing or offering for sale in the United States materials and/or apparatus for use in practicing the inventions set forth in the '599 patent, that they know to be especially made or especially adapted for use in infringement of the inventions embodied in the '599 patent. On information and belief, these materials and/or apparatus have no substantial non-infringing use in commerce.
- 37. Defendants are inducing infringement of the '599 patent within this district and elsewhere in the United States by instructing in the use of materials and/or apparatus that infringe one or more of the claims of the '599 patent.

VII. COUNT THREE

(Patent Infringement—'704 Patent)

- 38. Plaintiff Cisco realleges and repeats the allegations of paragraphs 1 through 37 above.
- 39. On May 21, 1996, the United States Patent and Trademark Office duly and legally issued United States Letters Patent No. 5,519,704 (hereinafter the "'704 patent"), entitled

"RELIABLE TRANSPORT PROTOCOL FOR INTERNETWORK ROUTING." Cisco
Technology holds legal title to the '704 patent. By virtue of a license, Cisco Systems has all
substantial rights in the '704 patent, including the right to sue for infringement of the '704 patent.

- 40. Defendants have been and are infringing the '704 patent within this district and elsewhere in the United States by making, using, selling, importing, distributing or offering for sale products that infringe one or more of the claims of the '704 patent.
- 41. Defendants are contributorily infringing the '704 patent within this district and elsewhere in the United States by making, using, selling, importing, distributing or offering for sale in the United States materials and/or apparatus for use in practicing inventions set forth in the '704 patent, that they know to be especially made or especially adapted for use in infringement of the inventions embodied in the '704 patent. On information and belief, these materials and/or apparatus have no substantial non-infringing use in commerce.
- 42. Defendants are inducing infringement of the '704 patent within this district and elsewhere in the United States by instructing in the use of materials and/or apparatus that infringe one or more of the claims of the '704 patent.

VIII. COUNT FOUR

(Patent Infringement—'718 Patent)

- 43. Plaintiff Cisco realleges and repeats the allegations of paragraphs 1 through 42 above.
- 44. On August 1, 2000, the United States Patent and Trademark Office duly and legally issued United States Letters Patent No. 6,097,718 (hereinafter the "'718 patent"), entitled "SNAPSHOT ROUTING WITH ROUTE AGING." Cisco Technology holds legal title to the '718 patent. By virtue of a license, Cisco Systems has all substantial rights in the '718 patent, including the right to sue for infringement of the '718 patent.
- 45. Defendants have been and are infringing the '718 patent within this district and elsewhere in the United States by making, using, selling, importing, distributing or offering for sale products that infringe one or more of the claims of the '718 patent.

- 46. Defendants are contributorily infringing the '718 patent within this district and elsewhere in the United States by making, using, selling, importing, distributing or offering for sale in the United States materials and/or apparatus for use in practicing the inventions set forth in the '718 patent, that they know to be especially made or especially adapted for use in infringement of the inventions embodied in the '718 patent. On information and belief, these materials and/or apparatus have no substantial non-infringing use in commerce.
- 47. Defendants are inducing infringement of the '718 patent within this district and elsewhere in the United States by instructing in the use of materials and/or apparatus that infringe one or more of the claims of the '718 patent.

IX. COUNT FIVE

(Patent Infringement—'251 Patent)

- 48. Plaintiff Cisco realleges and repeats the allegations of paragraphs 1 through 47 above.
- 49. On December 4, 2001, the United States Patent and Trademark Office duly and legally issued United States Letters Patent No. 6,327,251 (hereinafter the "'251 patent"), entitled "SNAPSHOT ROUTING." Cisco Technology holds legal title to the '251 patent. By virtue of a license, Cisco Systems has all substantial rights in the '251 patent, including the right to sue for infringement of the '251 patent.
- 50. Defendants have been and are infringing the '251 patent within this district and elsewhere in the United States by making, using, selling, importing, distributing or offering for sale products that infringe one or more of the claims of the '251 patent.
- 51. Defendants are contributorily infringing the '251 patent within this district and elsewhere in the United States by making, using, selling, importing, distributing or offering for sale in the United States materials and/or apparatus for use in practicing the inventions set forth in the '251 patent, that they know to be especially made or especially adapted for use in infringement of the inventions embodied in the '251 patent. On information and belief, these materials and/or apparatus have no substantial non-infringing use in commerce.

52. Defendants are inducing infringement of the '251 patent within this district and elsewhere in the United States by instructing in the use of materials and/or apparatus that infringe one or more of the claims of the '251 patent.

X. COUNT SIX

(Copyright Infringement – IOS source code and CLI)

- 53. Cisco alleges and incorporates by reference the allegations in paragraphs 1 through 52 above.
- 54. Defendants have infringed and, unless enjoined in this action, will continue to infringe Cisco's Copyrighted Works by, among other things:
 - (a) Copying substantial portions of the code of the IOS Software Programs;
 - (b) Copying substantial portions of the CLI;
 - (c) Distributing works containing material copied from the IOS Software Programs and CLI; and
 - (d) Creating derivative works based on the IOS Software Programs and CLI.
- 55. Defendants' copying and distribution of the IOS Software Programs and CLI and the creation of unauthorized derivative works constitute willful infringement under the Copyright Act. By reason of Defendants' acts of infringement, Cisco has suffered and will continue to suffer, unless Defendants' infringement is enjoined, irreparable injury that cannot be adequately remedied at law. Because of such willful infringement, Cisco is entitled to enhanced damages and an award of its attorneys fees and costs pursuant to the Copyright Act.
- 56. Defendants' unauthorized copying and distribution of the IOS Software

 Programs and CLI and the creation of unauthorized derivative works constitute willful
 infringement under the copyright laws (or laws extending similar protection) of the foreign
 countries in which Defendants have copied, sold or distributed their infringing works. By reason
 of these acts of infringement, Cisco has suffered and will continue to suffer, unless Defendants'

infringement is enjoined, irreparable injury that cannot be adequately remedied at law. The exact foreign countries in which defendants have copied, sold or distributed their infringing works, and the extent of that illegal conduct, are not presently known to Cisco and can be learned only upon appropriate discovery from defendants. Cisco reserves the right, upon obtaining relevant discovery from defendants on their infringing conduct in foreign countries, to amend this Complaint to assert claims for violations of foreign copyright laws (or laws extending similar protection) and obtaining appropriate remedies for defendants' violations of those laws.

XI. COUNT SEVEN

(Copyright Infringement – IOS Manuals)

- 57. Cisco alleges and incorporates by reference the allegations in paragraphs 1 through 56 above.
- 58. Defendants have infringed and, unless enjoined in this action, will continue to infringe Cisco's Copyrighted Works by, among other things:
 - (a) Copying substantial portions of the IOS Manuals:
 - (b) Distributing works containing material copied from the IOS Manuals; and
 - (c) Creating derivative works based on the IOS Manuals.
- 59. Defendants' copying and distribution of the IOS Manuals and the creation of derivative works are not authorized by Cisco and constitute willful infringement under the Copyright Act. By reason of Defendants' acts of infringement, Cisco has suffered and will continue to suffer, unless Defendants' infringement is enjoined, irreparable injury that cannot be adequately remedied at law. Because of such willful infringement, Cisco is entitled to enhanced damages and an award of its attorneys' fees and costs pursuant to the Copyright Act.
- 60. Defendants' unauthorized copying and distribution of the IOS Manuals and the creation of derivative works constitute willful infringement under the copyright laws (or laws extending similar protection) of the foreign countries in which Defendants have copied, sold or distributed their infringing works. By reason of these acts of infringement, Cisco has

suffered and will continue to suffer, unless Defendants' infringement is enjoined, irreparable injury that cannot be adequately remedied at law. The exact foreign countries in which defendants have copied, sold or distributed their infringing works, and the extent of that illegal conduct, are not presently known to Cisco and can be learned only upon appropriate discovery from defendants. Cisco reserves the right, upon obtaining relevant discovery from defendants on their infringing conduct in foreign countries, to amend this Complaint to assert claims for violations of foreign copyright laws (or laws extending similar protection) and obtaining appropriate remedies for defendants' violations of those laws.

XII. COUNT EIGHT

(Trade Secret Misappropriation)

- 61. Cisco alleges and incorporates by reference the allegations of paragraphs 1 through 60 above.
- 62. Cisco maintains the source code to its IOS Software Programs as trade secrets and has taken reasonable measures to preserve the secrecy of the source code. The source code derives independent economic value from not being generally known to the public or to other persons who can obtain economic value from its disclosure or use.
- of Cisco's IOS source code through improper means and/or a breach of a confidential relationship. Defendants gained such access with knowledge, or at least reason to know, that the source code is confidential to Cisco. Defendants lacked authorization to use the source code for any purpose.
- 64. On information and belief, Defendants misappropriated Cisco's trade secrets by making use of the IOS Software Programs source code in order to create their VRP operating system by, among other things, using the confidential source code to learn confidential information about the structure and operation of the IOS Software Programs, patterning their own development of VRP on what they learned from Cisco's confidential information, and copying portions of the source code for incorporation into the VRP operating system.

Defendants further misappropriated Cisco's trade secrets by, on information and belief, copying portions of the IOS Software Programs source code for incorporation into their VRP operating system.

- 65. These acts of misappropriation violate the laws of the State of Texas and the laws of other states in which acts of misappropriation have occurred. As a direct and proximate result of Defendants' misappropriation of Cisco's trade secrets, Defendants have been unjustly enriched and Cisco has sustained damages in an amount to be proved at trial. Cisco has also suffered irreparable injury as a result of Defendants' misappropriation and will continue to suffer irreparable injury that cannot be adequately remedied at law unless Defendants are enjoined from utilizing the fruits of their misappropriation or engaging in further acts of misappropriation.
- 66. Each of the acts of misappropriation was done willfully and maliciously by Defendants, entitling Cisco to punitive damages to be proved at trial.
- 67. Defendants' misappropriation of Cisco's trade secrets also constitutes violations of those laws protecting trade secrets in foreign countries in which Defendants have taken, used, disclosed or profited from Cisco's trade secrets. The identity of those foreign countries in which defendants have taken, used, disclosed or profited from Cisco's trade secrets, and the extent of such illegal conduct, are not presently known to Cisco and can be learned only through appropriate discovery from Defendants. Cisco reserves the right, upon obtaining relevant discovery from Defendants, to amend this complaint to assert claims for trade secret misappropriation and/or theft under the laws of foreign countries, and to obtain appropriate remedies for Defendants' illegal acts under the laws of foreign countries.

XIII. COUNT NINE

(Common Law Misappropriation)

68. Cisco alleges and incorporates by reference the allegations of paragraphs 1 through 67 above.

- 69. The CLI is a critical component of Cisco's business and represents enormous commercial value to the company. Cisco has invested substantial time and expense in the development of the CLI, a development effort that has entailed thousands of man hours of work spread over an extended period of time. Cisco also has invested substantial time and expense in training its customers on the use of the CLI.
- 70. By replicating the structure, organization and commands of CLI,

 Defendants have misappropriated the substantial commercial value of the CLI without the
 consent or authorization of Cisco.
- 71. By this misappropriation, Defendants are attempting to reap the benefits of Cisco's effort without committing the time and resources to independently develop an interface. Because they have avoided the expense of creating their own user interface, Defendants are able to price their routers at levels that would not be possible if Defendants were not obtaining a free ride on the basis of Cisco's efforts.
- 72. As a direct and proximate result of Defendants' misappropriation, Cisco has sustained damages in an amount to be proved at trial. Defendants' misappropriation has caused, and unless enjoined, will continue to cause, substantial competitive injury to Cisco.

XIV. COUNT TEN

(False Representation – Lanham Act § 43(a))

- 73. Cisco repeats and incorporates the allegations in paragraphs 1 through 72 above.
- 74. On information and belief, Defendants have represented to customers and prospective customers that their Quidway routers are interoperable with Cisco routers without any loss or performance, security or convenience. Such representations constitute a false and misleading characterization of the qualities and characteristics of Defendants' products in violation of Section 43(a) of the Lanham Act, 15 U.S.C. § 1125(a).

- 75. As a direct and proximate result of Defendants' misrepresentations of fact, Cisco has suffered and will continue to suffer irreparable injury unless Defendants are enjoined from engaging in their unlawful conduct.
- 76. As a direct and proximate result of Defendants' passing off, Cisco has suffered and will continue to suffer irreparable injury unless Defendants are enjoined from engaging in their unlawful conduct.

XV. COUNT ELEVEN

(Unfair Competition – Texas Common Law and Lanham Act § 44)

- 77. Cisco repeats and incorporates the allegations in paragraphs 1 through 76 above.
- 78. Defendants have engaged in unfair competition under Texas common law and under Lanham Act § 44 by, among other things, misappropriating Cisco's trade secrets, misappropriating the commercial value of the CLI, making false representations regarding the qualities and characteristics of their Quidway routers, making claims of "full intellectual property rights" under Cisco IP and mimicking Cisco's nomenclature and product numbering system to mislead customers and potential customers regarding the alleged interoperability of Quidway routers.
- 79. As a direct and proximate result of Defendants' acts of unfair competition, Defendants have been unjustly enriched and Cisco has sustained damages in an amount to be proved at trial. Cisco has also suffered irreparable injury as a result of Defendants' unfair competition and will continue to suffer irreparable injury unless Defendants are enjoined from utilizing the fruits of their unfair competition or engaging in further acts of unfair competition.
- 80. Each of the acts of unfair competition were done willfully and maliciously by Defendants, entitling Cisco to punitive damages to be proved at trial.

XVI. COUNT TWELVE

(Conversion)

- 81. Cisco repeats and incorporates the allegations in paragraphs 1 through 80 above.
- 82. On information and belief, Defendants converted Cisco's computer code by unlawfully acquiring possession of one or more computer files (i.e., one or more documents) containing Cisco's computer source code and exercising dominion and control over the computer source code in an unlawful and unauthorized manner to the exclusion of and inconsistent with Cisco's rights, tantamount to a refusal after demand.
- 83. As a direct and proximate result of Defendants' acts of conversion, Cisco has sustained damages in an amount to be proved at trial. Cisco has also suffered irreparable injury as a result of Defendants' conversion and will continue to suffer irreparable injury unless Defendants are enjoined from utilizing the fruits of their conversion.
- 84. Each of the acts of conversion were done willfully and maliciously by Defendants, entitling Cisco to punitive damages to be proved at trial.

XVII. DEMAND FOR TRIAL BY JURY

85. Cisco hereby demands a jury trial for all issues deemed to be triable by jury.

XVIII. PRAYER FOR RELIEF

WHEREFORE, Cisco respectfully requests that this Court enter judgment in its favor and against Defendants and grant the following relief:

- A. A judgment that Defendants have infringed the patents in suit.
- B. A judgment that Defendants' infringement of the patents in suit has been willful.
- C. A preliminary and permanent injunction, pursuant to 35 U.S.C. § 283, enjoining Defendants, and all persons in active concert or participation with them, from any

further acts of infringement, contributory infringement or inducement of infringement of the patents in suit.

- D. An order, pursuant to 35 U.S.C. § 284, awarding Cisco damages adequate to compensate Cisco for Defendants' infringement of the patents in suit, in an amount to be determined at trial, but in no event less than a reasonable royalty.
- E. An order, pursuant to 35 U.S.C. § 284, trebling all damages awarded to Cisco based on Defendants' willful infringement of the patents in suit.
- F. An order, pursuant to 35 U.S.C. § 285, finding that this is an exceptional case and awarding to Cisco its reasonable attorneys fees incurred in this action.
- G. A preliminary and permanent injunction enjoining Defendants, and all persons in active concert or participation with them, from infringing or contributorily infringing Cisco's copyrights in the IOS Software Programs, CLI or IOS Manuals.
- H. An order requiring Defendants to account for all gains, profits and advantage derived from their infringement of Cisco's Copyrighted Works.
- I. An order awarding Cisco damages against Defendants equal in amount to the damages sustained by Cisco and the profits earned by Defendants from their infringement pursuant to 17 U.S.C. § 504(b).
- J. An order awarding Cisco statutory damages pursuant to 17 U.S.C. § 504(c).
- K. An order awarding Cisco its attorneys fees and costs on account of Defendants' infringement pursuant to 17 U.S.C. § 505.
- L. An order requiring the impoundment and destruction of all routers, computer programs and manuals, or any version or modification thereof, found to constitute an infringement of Cisco's copyrights or trade secrets.
- M. A preliminary and permanent injunction enjoining Defendants, and all persons in active concert or participation with them, from misappropriating or threatening to misappropriate Cisco's trade secrets or misappropriating the commercial value of the CLI.

- N. A preliminary and permanent injunction enjoining Defendants, and all persons in active concert or participation with them, from making false and misleading statements regarding the performance, characteristics or interoperability of Defendants' Quidway routers.
- O. A preliminary and permanent injunction enjoining Defendants, and all persons in active concert or participation with them, from using, selling, offering for sale, marketing, distributing or placing in interstate commerce their Quidway routers, switches, or other products that use VRP, and the VRP operating system itself.
- P. An order awarding Cisco damages in an amount to be determined at trial arising from Defendants' trade secret misappropriation, common law misappropriation, false and misleading representations regarding their Quidway routers, switches, or other products that use VRP, and Defendants' unfair competition.
- Q. An order requiring Defendants to disgorge all ill-gotten profits earned from their unlawful conduct, together with restitution to plaintiffs arising from Defendants' unlawful conduct.
- R. An order awarding Cisco the unjust enrichment gained by Defendants from their unlawful conduct.
- S. An order awarding Cisco punitive damages in an amount to be determined at trial on account of Defendants' wanton, willful and malicious tortious conduct.
 - T. An order awarding Cisco its attorneys fees and costs in this action.
 - U. Such other and further relief as this Court may deem just and proper.

Dated: January 22, 2003

Respectfully submitted,

Sam F. Baxter

Attorney-In-Charge for Plaintiff

State Bar No. 01938000

McKool Smith, P.C.

P.O. Box O

505 East Travis Street, Suite 105

Marshall, TX 75670

Telephone: (903) 927-2111 Facsimile: (903) 927-2622

Jeffrey R. Bragalone

State Bar No. 02885775

McKool Smith, P.C.

300 Crescent Court, Suite 1500

Dallas, TX 75201

Telephone (214) 978-4000

Facsimile: (214)978-4044

OF COUNSEL:

ORRICK, HERRINGTON & SUTCLIFFE LLP Chris R. Ottenweller (Ca. State Bar No. 73649) G. Hopkins Guy (Ca. State Bar No. 124811) 1000 Marsh Road Menlo Park, CA 94025 Telephone: (650) 614-7400

Facsimile: (650) 614-7401

CaseCas03-5cv-00002709725VBIDFocDmeintn1entF2le01-01/22/408037/ag/4

AT CHINA



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.





EFFECTIVE DATE OF REGISTRATION

11 to 1 A 2002

Maryboth Peters

BRARY OF	Chic	, 4	7	Jl	N 1 4 500	_				
"MRY OF	C	ν Σ	SISTER OF COPYRIGHTS	Month	Day	Yeer				
OFFICIAL S	CEAL	net	United States of America							
OFFICIAL			MORE SPACE, USE A SEPARATE	CONTINUATION	SHEET.					
	DO NOT WRITE ABOVE THIS L	INE. IF YOU NEED	MORE SPACE, OUE R DEFAULT							
7	TTILE OF THIS WORK Y									
7	Cisco IOS 11.0									
	CISCO TOS TT.O									
	THE OF ALTERNATIVE	TITT ES War 100	Release 11.0; Cisco IOS Version 11.0; C	inco Internetwork (Decration System	I.O: Cleco				
	PREVIOUS OR ALTERNATIVE	Internetwo	rk Operating System Release 11.0; Cisco	Internetwork Open	nting System Ver	ica 11.0				
	THE ACTION AS A CONTRIB	DITTION If this work	was published as a contribution to a perio	dical, serial, or colle	ction, give informa	tion about the				
	collective work in which the contribut	tion appeared. Tit	le of Collective Work ▼							
		CONCLUSE ALPINE BY AMERICAN AND ALL PROPERTY OF THE PROPERTY O								
	If published in a periodical or serial gi	- Volume ▼	Number V	Issue Date V	On Pa	J Y				
	If published in a periodical or scrau go	Me' Anerrae A	•••							
				DATES OF BIR	TH AND DEAT	H				
	NAME OF AUTHOR Y			Year Born ▼	Year Died	Ť				
7 a	Cisco Systems, Inc.		<u> </u>							
	Was this contribution to the work a	AUTHOR'S NAT	TONALITY OR DOMICILE	WAS THIS AU	THOR'S CONT	RIBUTION TO				
	"work made for blat?"	Name of Country	· ·	THE WORK		of these questions is .				
13	£ Yes	OR Citizen of	United States	Anonymeus?	☐Yes \$7 No ☐Yes \$7 No	"Yes," see datailed instructions,				
	Ľ No	Domiciled in		Pseudonymous?						
NOTE	NATURE OF AUTHORSHIP B	NAME OF A VITALOPS LIP Briefly describe matter of material created by this author in which copyright is chained.								
MOLE	New and revised computer code and accompanying documentation			DATES OF BIR	TH AND DEAT	H				
Inder the law, he "author" of -g	NAME OF AUTHOR V See Attached Form TX/CO	N for Additional	Authors	Year Born ▼	Year Died					
work made or hire to) See Attached Form 12000	14 10) 71000000000								
enerally the	Was this contribution to the work a	AUTHOR'S NA	TIONALITY OR DOMICILE	WAS THIS AU	THOR'S CONT	RIBUTION TO				
mployer, not he employee	"work made for hire"?	Name of Country		THE WORK Anonymous?	□Yes □ No	of these purchase in				
lege legtruc- lons). For any	□ Yes	OR Citizen of		Pseudonymous?	□Yes □ No	"Yes," per detailed instructions.				
pert of Mile	□ No	Domiciled in								
vork that was 'made for hire"	NATURE OF AUTHORSHIP	kriefly describe nature o	f material created by this author in which		-					
phock "Yoo" in the opoco				DATES OF BUR	TH AND DEAT	H				
provided, give	NAME OF AUTHOR Y			Year Born ▼	Year Died	₩				
he employed or ather	•									
person for whom the work		AUTHOR'S NA	TIONALITY OR DOMICILE	WAS THIS AU	THOR'S CONT	RIBUTION TO				
was prepared)	Was this contribution to the work a "work made for hire"?	Name of Country		THE WORK	☐ Yes ☐ No	of these questions is				
se "Author" of that part, and	[] Yes	OR Citizen of ▶	•		DYes D No	"Yes," see detailed instructions.				
leave the space for dates	□ No	Domiciled in		Pseudonymous?						
of birth and death blank.	NATURE OF AUTHORSHIP	Briefly describe mature o	f material created by this author in which	coblement a commen	• •					
Despi Dianix.			ATE AND NATION OF FIRST PU	LICATION OF	HIS PARTICE!	AR WORK				
7	YEAR IN WHICH CREATION		MATE AND NATION OF PIRST FOR	Day						
K 2	WORK WAS COMPLETED TO	net be given	NLY if this work			4 Note				
J			e been published.	400 1047	ON DECEMEN					
<u></u>	COPYRIGHT CLAIMANT(S) N	Vame and address mus	be given even if the claimant is the same	-	ON RECEIVED					
Л	the author given in space 2. V				SIT RECEIVED					
4	Cisco Technology, Inc.					•				
	170 West Tasman Drive				OSITS RECEIVED					
See instructions before completing	San Jose, CA 95134			-185 IWO DEP	JOHN DEPENDED					
Sit space.	CONTRACTOR MANAGEMENT AND	ed here in space 4 is (ar	e) different from the author(s) named in							
	space Z, give a brief statement of how	v the claimant(s) obtain	ed ownership of the copyright. 🔻	TWO DEPO	CEIVED					
				 						
	By agreement			.]						

Case(2:03-5c1-60002709728VB Doc Domento entrated - 01/22/20303	Fab/e	228 Pata 77	PhoéID3#:	28

	5	XAMINED BY	n6	FC	ORM TX
	The state of the s	HECKED BY		_	
	-	- CORRESPOND	ENCE	_	FOR
	[Yes	ENOL		PYRIGHT OFFICE
	-			-	USE
	-				UNL!
	DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A	SEPARATE CONT	INUATION SHEET.		
PREVIOUS	REGISTRATION Has registration for this work, or for an earlier version of this work	already been made in	the Copyright Office?		
	if your answer is "Yes," why is another registration being sought? (Check appropriate lefts published edition of a work previously registered in unpublished forta.	port) A			-
	is term published extract or a work previously registered in anyone manufacture in the second section submitted by this author as copyright charment.		•		
	changed version of the work, as shown by space 6 on this application.				
lf your answe r	is "Yes," give: Previous Registration Number >	Year of Registration	•		
DERIVATIV	VE WORK OR COMPILATION Interial Identify any preexisting work or works that this work is based on or incorporates	L V		a	$\overline{}$
_	by claimant and preexisting third party computer code	-		u	n
Prior works	; by claritant and precauling and party company com-			See !	instructions
Majorial Addr	ed to This Work. Give a brief, general statement of the material that has been added to th	is work and in which	copyright is claimed. ▼	befor	re completing space.
New and r	evised computer code and accompanying documentation			b	
	•				
				<u> </u>	
DEPOSIT A	CCOUNT If the registration fee is to be charged to a Deposit Account established in the	re Copyright Omce, gr 7	As timbe and timpper of wedgest.	a	7
,		**************************************			
		-ddhd Nd	Address / And /City /State /7ID W	=,	-
CORRESPO Tu T. Tsa	NIDENCE Give name and address to which correspondence about this application sho on. Fac.	AND DE SOUR. NAME?	Madrens Apr. City/ Scies/ 2 is 4	b	
Fenwick &	& West LLP				
2 Palo Alt					
	, CA 94306 _{Natione telephone resider ▶ (650) 858-7696}	Fee number la-	(650) 494-1417		
Email >		•	(35,5)		
##sac	@fenwick.com				
CERTIFICA	TION* I, the undersigned, hereby certify that I am the				0
	Check only one Check only one	etabelet ·			0
of the work to	continued in this application and that the statements reads	Cisco Technol	ogy, lnc.	•	
by me is this a	application are correct to the best of my knowledge.	f author or other copyright	schimant, or owner of suctuality right(s) &	•	
Typeder prin	and some and date Ψ if this application gives a date of publication in space 3, do not sign	n and aubmit it before	that date.	. .	
	Barr, Worldwide Patent Counsel	_		_	
CP	Sandry itten signeture 04				
X	Just Francisco	<u>-</u>		_	
			VCU MUST		
Certificate	Name V		Complete of recessary epaces Sign your application in space 8		u
will be mailed in	Susanne S. Morales, Paralegal / Fenwick & West LLP		SEND ALL 3 ELEMENTS IN THE SAME PACHAGE		
window	Number/StreeNApl ▼		1. Application form	er Imoney Of	der An of July 1,
envelope to this	2 Palo Alto Square		2. Norretundate ling the in the projects to Register of Copyright 3. Deposit material (NAIL 10		1999, the
address:	ChySunn/ZP ▼		Comments		for for Form TX
	Palo Alto, CA 94306		Copyright Office 101 Independence Averus, S.E. Washington, D.C. 20559-4090		le \$30.
		4-11	der by section AGS or in any setting stat	ment Bed I	

CaseC2x035cx1-6000270920VBIDFOCDMeintnEntFiledt-01/2240303Faty4c29 fotoge PagetD3#: 29
CONTINUATION SHEET
FOR APPLICATION FORMS

TXI 1-036-057

This Continue Indicate while of at all possion of the Continue of you submit two together space A of Space B is a to Short for	n the reverse side of this sheet) is for the continuation of species 1, 4, 4 or the optication or for the continuation of Spece 1 on any of the three Short Forms	PAPAUSE SEG SEU SR SRUT X TXU VALUE EFFECTIVE DATE OF REGISTRATION JUN 1 4 2002 (MORINA (Day) (Year) CONTINUATION SHEET RECEIVED JUN 1 4, 2002 Page 3 of 4 pages
Identification of Application	IDENTIFICATION OF CONTINUATION SHEET: This sheet is a continuation of form submitted for the following work: • TITLE: (Give the title as given under the heading "Title of this Work" in Space 1 of Cisco IOS 11.0 • NAME(S) AND ADDRESS(ES) OF COPYRIGHT CLAIMANT(S): (Give the name in Space 4 of the basic form or Space 2 of any of the Short Forms PA, TX, or VA.) Cisco Technology, Inc., 170 West Tasman Drive, San Jose	of the basic form.) and address of at least one copyright claimant as giv
V-1,32,517,1412 517,152	NAME OF AUTHOR ▼ (See Space C)	DATES OF BIRTH AND DRATH Year Born Y Year Dled
B Continuation of Space 2	Was this contribution to the work AUTHOR'S NATIONALITY OR DOMICTLE a'work made for hire? ☐ Yes ☐ No NATURE OF AUTHORSHIP Briefly describe nature of the material created by the	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? ☐ Yes ☐ No If the answer to either questions of these questions are author in which copyright is claimed. ▼
	NAME OF AUTHOR ▼	DATES OF BIRTH AND DEATH Year Born Y Year Died V

WAS THIS AUTHOR'S CONTRIBUTION TO Was this contribution to the work AUTHOR'S NATIONALITY OR DOMICILE THE WORK a work made for hire 7 ☐ Yes ☐ No Fine Anonymous? Pseudonymous? Yes No No No O Yes Domiciled in □ No NATURE OF AUTHORSHIP Briefly describe nature of the material created by the author in which copyright is claimed. ▼ DATES OF BIRTH AND DEATH NAME OF AUTHOR V Year Died♥ Year Born♥ WAS THIS AUTHOR'S CONTRIBUTION TO Was this contribution to the work AUTHOR'S NATIONALITY OR DOMICILE THE WORK Name of Country a"work made for hire"? ☐ Yes ☐ No Anonymous? Cittizen of ▶ Pseudonymous? Yes No hat D Yes Domiciled in O No NATURE OF AUTHORSHIP Briefly describe nature of the material created by the author in which copyright is claimed. ▼

Case(2x)35x1-6000279972164B1DFoctionentn1entF21etd-01/2240B03P3tg4:30 104g7 P3ag41D3#: 30

CONTINUATION OF (Check which	h): 🗆 Spac	el 🗆 Space 4	☐ Space 8	Space 2	Zb	
Name of Author	Work for Hire	Domicile	Anonymous	Pseudo- nymous	Nature of Contribution	
ABE Staffing, Inc. Metaplex, Inc. Nano Solutions Bev Talbott	Yes Yes Yes No	United States United States United States United States	Yes Yes Yes Yes	No No No No	Computer code Computer code Documentation Documentation	Continuation of other Spaces

malled in window	Neme ▼ Susanne S. Morales, Paralegal / Fenwick & West LLP	YOU MUST Complete all recessary spaces Sign your application SCHO ARUB EUCHENIS IN THE SAME PACKAGE	D
	Number/Street/Apt ¥ 2 Palo Alto Square	Application form Nonrefundable fee in check or money order psyable to Register	through June 36, 2012, After Port data, check the Copyright office Website St
	Cthy/Stebs/ZIP ▼	of Copyrights 3. Deposit Material	run inc.proloopy- right or cell (202) 707-3000 for content
	Palo Alto, CA 94306	Library of Congress, Copyright Office 101 Independence Avenue, B.E. Westlington, D.C. 20509-8000	for Information.

EXHIBIT B

CERTIFICATE OF REGISTRATION



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

FURM CA
For Supplementary Registration
UNITED STATES COPYRIGHT OFFICE

 \odot

REGISTRATION NUMBER

TXU 1-048-569

L		<u>-</u>
EFFECTIVE DATE OF	SUPPLEMENT	ARY REGISTRATION
Aug.	20,	2002
Month	Day	Year

REGISTER OF COPYRIGHTS

OFFICIAL SEAL United States of America DO NOT WRITE ABOVE THIS LINE, IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET. Title of Work ♥ Cisco IOS 11.1 Year of Basic Registration ▼ Registration Number of the Basic Registration V 2002 TX 5-531-435 Name(s) of Copyright Claimant(s) ♥ Cisco Technology, inc. Name(s) of Author(s) V Cisco Systems, Inc. Location and Nature of Incorrect Information in Basic Registration V Date and Nation of First Publication of this Particular Work Line Number 3b Line Heading or Description Incorrect Information as It Appears in Basic Registration V February 28, 1996; United States Corrected Information V N/A (please delete) Explanation of Correction V The work is unpublished. Location and Nature of Information in Basic Registration to be Amplified V Line Heading or Description

Line Number _____ Line Heading or Amplified Information and Explanation of Information

		FORM CA RECEIVED	FORM CA
		AUG. 2 C. 2002	
		FUNDS RECEIVED DATE	
		āU6. 2 0. 200 2	
		EXAMINED BY TIMS	FOR COPYRIGHT
		CORRESPONDENCE O	OFFICE
			USE ONLY
		REFERENCE TO THIS REGISTRATION ADDED TO THE RESISTRATION OF THE RE	
		BASIC REGISTRATION UPYES ONO	_
DO NOT WRIT	TE ABOVE THIS LINE. IF YOU NEED MORE SPACE,	USE A SEPARATE CONTINUATION SHEET.	which was in the language
	of B Part B or C Part C		
Line Numb		ious Registration	
incorrect in	nformation as It Appears in Basic Registration	n: Box C unchecked	
Corrected	Information: Box C checked		
Explanation	n of Correction: This work is a changed ver	ion.	
Line Numb	per: 2b Line Heading or Description: Nam	e of Author	
Incorrect Ir	nformation as it Appears in Basic Registratio	n: No entry	
Corrected	Information: See Attached Form TX/CON for	r Additional Authors	
Explanatio	on of Correction: Additional authors on Form	TX/CON	annin ann ann ann ag Ad Adhannain
Compande	nce: Give name and address to which correspondence a	sout this application should be sent.	September 1
Tm T. T880	, Eag.		
Ferwick & 2 Palo Alto			-
Pulo Alto, (CA 94306	-1417 Emas ttseo@fenwick.com	
Phone (<u>650</u>			A account
Deposit Acco	numb: If the registration fee is to be charged to a Deposit	Account established in the Copyright Office, give name and number of	e Account
Name			
Amount Nan	nber	D TAKEN THE PARTY OF THE PARTY	خالد التراوف في الدراس الترويف الترويف الترويف التحديد
	* I, the undersigned, hereby certify that I am the: (Checi	only one)	
	□ author □ owner of exclusive riginal other copyright claimant □ duly authorized agent	O Cisco Technology, Inc. Name of author or other copyright claimant, or owner of exclusive rig	hits) A
	and the stimulation and that the sti	Name of author or other copyright command to the best of my kno tements made by me in this application are correct to the best of my kno	wiedge.
Typed or pri	inted mane Tu T. Tsao	Date ¥ 8/19/15	
The developer	n signature (X) ▼		5
	Lat		
	THE PROPERTY OF THE PROPERTY O	1500 Dest	
Cartificate will be	Nema ▼ Susanne S. Morales, Paralegal / Fenwick	& West LLP	
melled in wiedow	Number/Reservage \	1. Application form. 2. Nonrechardate flow fine in the	10
emelops	2 Palo Alto Square	2. Noveled the second of the s	r of the property of the prope
to Shis address:	Chy/bute/2IP ▼	CALL SD Library of Congress	
	Palo Alto, CA 94306	Capyight Office 191 Independence Annies, S.E. Westington, D.C. 20069-0009	Stan, or mail Cooks both dama.
	<u></u>	The second secon	

CERTIFICATE OF REGIST AT COPYRICHA

This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records. Parybeth Peters



FOR a Nondramatic Literary Work



EFFECTIVE DATE OF REGISTRATION JUN 14 2002

REGISTER OF COPYRIGHTS United States of America

SUBRARY OF CONCRE OFFICIAL SEAL DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET. TITLE OF THIS WORK Y Cisco IOS 11.1 PREVIOUS OR ALTERNATIVE TITLES ▼ Cisco IOS Release 11.1; Cisco IOS Version 11.1; Cisco Internetwork Operating System 11.1; Cisco Internetwork Operating System Release 11.1; Cisco Internetwork Operating System Version 11.1 PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information absolutely work in which the contribution appeared.

Title of Collective Work ▼ issue Date V On Pages V Number ▼ If published in a periodical or serial give: Volume V DATES OF BIRTH AND DEATH
YEAR BORN ▼ YEAR DIED ▼ NAME OF AUTHOR Y Year Born ♥ Cisco Systems, Inc. WAS THIS AUTHOR'S CONTRIBUTION TO AUTHOR'S NATIONALITY OR DOMICILE Was this contribution to the work a THE WORK rk made for hire DYm ET No Anonymous? Chiben of #Yes United States DY EN Domictled ink Pseudonymous? O No NATURE OF AUTHORSHIP Briefly describe nature of moterial created by this author in which copyright is claimed. We now and revised computer code NOTE DATES OF BIRTH AND DEATH
YEAR BORN ▼ Year Died ▼ NAME OF AUTHOR V Year Born ▼ the "schlor" of a "work made for blor" is generally the employee, and the employee AUTHOR'S NATIONALITY OR DOMICILE WAS THIS AUTHOR'S CONTRIBUTION TO Was this contribution to the work a THE WORK work made for hire"? ITYM I No CH C) Yes OR Sough For any past of this DYes D No Domiciled in Pseudonymous? D No NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. d that was ale for him as "Yes" in DATES OF BIRTH AND DEATH
Year Born V Year Died V the spece presided, give NAME OF AUTHOR T Year Born ▼ printed, give the employer (or other person for when the work was prepared) as "Author" of WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK AUTHOR'S NATIONALITY OR DOMICILE Was this contribution to the work a work made for hire? DY DNo Chines of □ Yes tpart, and □Yes □ No Pseudonymous? Domictled Indi D No NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED This information to give the property of the HONE FEBRUARY D Complete this Inform ONLY II this work has been published. United States JUN 110 NECENED COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same at July 16, 2002 the nuthor given in space t. ∇ Cisco Technology, Inc. 1 6 2902 170 Wost Tasman Drive TWO DEPOSITS RECEIVED San Jose, CA 95134 TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in FUNDS RECEIVED space 2, give a brief materiers of how the claimant(s) obtained ownership of the copyright. By agreement

		EXAMINED BY TIM'S	FORM TX
		CHECKED BY	
		CORRESPONDENCE	FOR COPYRIGHT OFFICE
			OHLY
	DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MOR	e space, use a separate continuation sh	EET.
_	and the second second second second second section section section	version of this work, skready been made in the Copyright O	ned C
-d	(ECCS) SAA I Aver than region another regionstain being cought? Myour argues in "You." why is another regionstain being cought? Brest published actions of a work previously regionsed in impublish	Andrew man and a second as	J
. maire	The section in the section of the se		
. OTAlbad	paramit America of the Metir of Systems på obecs è ou con ablancame	N. Your of Registeriffen b	
S hen eneme (h "Yes," gha: Provious Registration Number 9 Pending	2002	
Proposition Ma	NORK OR COMPLATION territory work or works that this work is been territorial in the state of th	ed an or lacerporates. Y	a 6
Prior works	by claimant and preexisting third party computer or	ode	
Now and re	d to Thib West. Give a brist, general statement of the metariel that wised computer code	has been solded to this work and to which engaright is close	b.
CONNESPO			a 7
2 Palo Alto, Palo Alto,	k West ELP o Square CA 943M		
And the said in	pane baybane funder - (650) 858-7696	Facrosites > (650) 494	-1417
	@ferrwick.com		· · · · · · · · · · · · · · · · · · ·
	TONE I do understood bands could that I am the	Dunker	0
CENTERIOR	Company to all	Destro copyright claiment Descript of section is shall	0
ph an proper of	exilited in this application and that the platements made pplication are corrent to the best of my knowledge.	E softward agent of Cisco Technology, 180.	A SAN CANADA
Typed or print	ted Some and date Ψ if this application gives a date of publication	in upon 3, do not algo and submit it before that delts.	
Robert A.	Barr, Worldwide Patent Countel	, Doub	
CO'X	Lung		,
			\sim
Certificate will be	Susanne S. Morales, Paralogal / Ferwick & West	LLP Complete	9
mated in window envelope	North All Control	C. Application of the Control of the	The boy be to should be beauty order for of
to this	2 Pulo Alto Square	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	ergriffe to the
	Palo Alto, CA 94306		D.C. 2000-0000 to \$24.
	and have been a faire representation of a protected for	at in the application for aspyright regionston provided for by available it	II, or in any written statement find in correction

CONTINUIATION SHEET

NAME OF AUTHOR V

a work made for hire ?

		FORK WY /CON
CON	TINUATION SHEET	UNITED STATES COPYRIGHT OFFICE
FOR	APPLICATION FORMS	R TX 5-531-435
 Indicate whice If at all possi If you do not 	th basic form you are continued to link the spaces provided on the basic form. ble, try to fit the information called for into the spaces provided on the basic form, use have enough space for all the information you need to give on the basic form, use	PAPAU SE SEG SEU SR SRU(X)XUVA VAU EFFECTIVE DATE OF REGISTRATION
 If you submit two together 	this Continuation Sheet, clip (or not labe or supply) to before submitting them.	JUN 1 4 2002:
Space A.of Space B is a	this sheet is intended to identify the basic application. Space B is not applicable a continuation of Space 2 on the basic application.	(Month) (Day) (Your) CONTINUATION SHEET RECEIVED
to Short for Space C (or	ms. In the reverse side of this sheet) is for the continuation of Spaces 1, 4, or 6 on optication or for the continuation of Space 1 on any of the three Short Forms	22761 A
PA, TX, or	VA.	Pege 3 of 4 peges
- a NOT WRITE	E ABOVE THIS LINE. FOR COPYRIGHT OFFICE USE ONLY	
Identification of Application	• NAME(S) AND ADDRESS(ES) OF COPYRIGHT CLAIMANT(S): (Give the nar in Space 4 of the basic form or Space 2 of any of the Short Forms PA, TX, or VA.) Cisco Technology, Inc., 170 West Tasman Drive, San Jos NAME OF AUTHOR ▼ (See Space C)	ne and address of at least one copyright claimant as given Be, CA 95134 DATES OF BIRTH AND DEATH Year Born▼ Year Died▼
d		E WAS THIS AUTHOR'S CONTRIBUTION TO
R	Was this contribution to the work AUTHOR'S NATIONALITY OR DOMICIL a work made for hire?	THE WORK Anonymous?
Continuation	☐ Yes OR Citizen of ▶	Pseudonymous? Yes No No bustudions.
of Space 2	NATURE OF AUTHORSHIP Briefly describe nature of the material created by	y the author in which copyright is claimed. ▼
	NAME OF AUTHOR ¥	DATES OF BIRTH AND DEATH Year Born♥ Year Died♥
e	Was this contribution to the work AUTHOR'S NATIONALITY OR DOMICIL	E WAS THIS AUTHOR'S CONTRIBUTION TO
	a work made for hire?	Anonymous? LI Yes LI No of these questions is
	☐ Yes ☐ No ☐ No ☐ No	Pseudonymous? Pseudonymous? No hotrodens.
	NATURE OF AUTHORSHIP Briefly describe nature of the material created b	
		DATES OF BIRTH AND DEATH

□ Yes NATURE OF AUTHORSHIP Briefly describe nature of the material created by the author in which copyright is claimed. ▼

Year Died♥

Yes No I the answer to either

of those questions is "Yes," see detailed

WAS THIS AUTHOR'S CONTRIBUTION TO

Pseudonymous? Yes No hasudions.

Year Born♥

THE WORK

Anonymous?

Was this contribution to the work AUTHOR'S NATIONALITY OR DOMICILE

Citizen of 🕨

Domiciled in .

CONTINUATION OF (Check which	a): 🗆 Spac	el 🗆 Space 4	□ Space 6	Space:	2 b	
Name of Author	Work for Hire	Domicile	Anonymous	Pseudo- nymous	Nature of Contribution	
Energetic Systems Metaplex, Inc. Nano Solutions Bey Talbott	Yes Yes Yes No	United States United States United States United States United States	Yes Yes Yes Yes	No No No No	Computer code Computer code Documentation Documentation	of other Speces

Certificate will be mailed in	Norme ▼ Susanne S. Morales, Paralegal / Fenwick & West LLP	YOU MUST - Complete at necessary spaces - Sign your application SUMD ALL & ELEMENTS IN THE SAME PACKAGE	D.
window envelope to this	Numbe/Bireel/Apt ▼ 2 Palo Alto Square	Application form Nonrefundable fee in check or money order payable to Register of Copyrights	www.loc.govicepy-
address:	Palo Alto, CA 94306	3. Decoeli Material MAZINE TO Library of Congress, Copyright Office 101 Independence Avenus, S.E. Washington, D.C. 20569-6000	right or call (163) 767-3606 for outrook too beforeasiles.

EXHIBIT C

Case 2:03 5:1-000 279 9 20 BLD Comemnent File ti-01/22 40 BO 3 Page 3 Page 1 Page 1 B#: 39 CERTIFICATE OF REGIS ATION

Nondramatic Literary Work

P





This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.

TXu 1-036-063

EFFECTIVE DATE OF REGISTRATION

JUN 1 4 2002

OFFICIAL SEAL

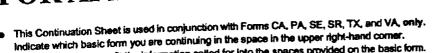
REGISTER OF COPYRIGHTS United States of America DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET. TITLE OF THIS WORK Y Cisco IOS 11.2 PREVIOUS OR ALTERNATIVE TITLES ▼ Cisco IOS Release 11.2; Cisco IOS Version 11.2; Cisco Internetwork Operating System 11.2; Cisco Internetwork Operating System Release 11.2; Cisco Internetwork Operating System Version 11.2 PUBLICATION AS A CONTRIBUTION if this work was published as a contribution to a periodical, serial, or collection, give information about the Title of Collective Work V collective work in which the contribution appeared. On Pages ▼ Issue Date V Number * If published in a periodical or serial give: Volume ▼ DATES OF BIRTH AND DEATH NAME OF AUTHOR V Year Died ▼ Year Born V a Cisco Systems, Inc. WAS THIS AUTHOR'S CONTRIBUTION TO AUTHOR'S NATIONALITY OR DOMICILE Was this contribution to the work a THE WORK of these q work made for hire? □Yes EF No Anonymous? Chimno of D Ø Yes Domictled tole United States ☐Yes Ø No Pseudonymous? NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. O No New and revised computer code and accompanying documentation NOTE DATES OF BIRTH AND DEATH NAME OF AUTHOR ▼ Year Died V Under the law the "author" of See Attached Form TX/CON for Additional Authors the "author or a "work made for hire" is generally the amployer, not the employee (see instructions). For any part of this work that was WAS THIS AUTHOR'S CONTRIBUTION TO AUTHOR'S NATIONALITY OR DOMICILE Was this contribution to the work a THE WORK of these award "work made for hire"? Anonymous? ☐ Yes ☐ No "Yes," see detail Chizen of □ Yes OR Pseudonymous? ☐ Yes ☐ No Domiciled in □ No NATURE OF AUTHORSHIP Briefly describe nature of meterial created by this author in which copyright is claimed. work that was made for hire check "Yes" in the space provided, give the employer (or ether DATES OF BIRTH AND DEATH Year Died ▼ NAME OF AUTHOR V Year Born ▼ WAS THIS AUTHOR'S CONTRIBUTION TO erson for AUTHOR'S NATIONALITY OR DOMICILE whom the work was prepared) as "Author" of Was this contribution to the work a THE WORK If the and of these questions "Yes," see detailed work made for hire"? ☐ Yes ☐ No Amonymous? Citizen of ☐ Yes that part, and DYm D No Pseudonymous? Domiciled in leave the space for date O No NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. of birth and DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK YEAR IN WHICH CREATION OF THIS WORK WAS COMPLETED This information must be given in all cases. 4 No a JUN 14. 2002 COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2. ▼ ONE DEPOSIT RECEIVED JUN. 14. 2002 Cisco Technology, Inc. 170 West Tasman Drive TWO DEPOSITS RECEIVED San Jose, CA 95134 TRANSFER if the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright. FUNDS RECEIVED By agreement

		EXAMINED BY	J	FORM TX
	•	CHECKED BY	3	
		CORRESPONDENC	:E	FOR COPYRIGHT
		Yes		OFFICE
				USE ONLY
		ADAGE MOE A SEDABATE CONTINU	ATION SHEET.	
DC	NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE	SPACE, USE A SEPARATE CONTINUE	Copyright Office?	
PREVIOUS RE	GISTRATION Has registration for this work, or for an earlier fyour answer is "Yes," why is another registration being sought?	(Check appropriate box.) V		っ っ
■ □ This is the fi	ical published edition of a work previously registered in unprocess	hed form.		
. I'll This is the fi	irst application submitted by this author as copyright comment.			
r. M This is a cha	inged version of the work, as shown by space 8 on trus application	ı. Year əf Ragistration ▶		
li your answer is	"Yes," give: Previous Registration Number Pending		2002	
DERIVATIVE Preexisting Mate	WORK OR COMPILATION relai Identify any preexisting work or works that this work is base	ed on or incorporates. ▼		a 6
Prior works t	by claimant and preexisting third party computer of	ode .		See trativitions
	to This Work. Give a brief, general statement of the material that	her been added to this work and in which cop	yright is claimed. ♥	before completing this opera.
Material Added	to This Work. Give a brief, general statement of the material user vised computer code and accompanying documents	ation		D
MEM WING IC.				
\$			and mumber of Arrowst	
DEPOSIT AC	COUNT If the registration fee is to be charged to a Deposit Acc	count established in the Copyright Office, give to Account Number \(\textstyle{\textsty	Hame and Indinest of Account.	a. 7
Name V				
			14 - 4 (Class (Santa / 710 W	-
CORRESPON	NDENCE Give name and address to which correspondence about	ut this application should be sent. Name/Ad	oress/Apt/Caty/South/Est	D
Tu T. Tsao	, Esq.			
Fenwick & 2 Palo Alto	. West Live			
Palo Alto,	CA 94306			
Area code and de	yinne telephone mimber ▶ (650) 858-7696	Fax number	(650) 494-1417	
	@fenwick.com			
		Dauthor		0
CERTIFICAT	TION* 1, the undersigned, hereby certify that I am the Check only one	other copyright claimant		X
		owner of exclusive right(s)	ny Inc	J
of the work ide	mtified in this application and that the statements made pplication are correct to the best of my knowledge.	Mauthorized agent of Cisco Technolog	siment, or owner of exclusive right(s) A	
•				.
Typed or print	led name and date $f v$ if this application gives a date of publication	n in space 3, do not sign and submit it before th	at date.	
	Barr, Worldwide Patent Counsel		·>	=
	HapdWilten signature (X) ♥			
X		ا حمود میدود جمعت بیده حمود حمود خود خدید در است. -		_
	•			
			Complete oil recessory speces	
Certificate	Name ▼ C. M. Jan Damlagel / Fenwick & Wes	r I I P	- Sign your application in space 8	
will be	Name ▼ Susanne S. Morales, Paralegal / Fenwick & Wes		SEND ALC DELEMENTS IN THE SAME PACKAGE 1. Application form	
mailed in window	Number/StreeVApt ▼		2. Normetundable Pang tee in Check to payable to Register of Copyrights	
envelope to this	2 Palo Alto Square		3. Deposit material	1999, ° the Ming
to trus address:	City/State/ZIP ♥		Comments Office	les for Form T
	Palo Alto, CA 94306		101 Independence Avenue, S.E. Washington, D.C. 20559-8000	is 530.

CaseC2:035c1-0000279972WBIDFocDomentnentF21261-01/22/40303PAg4&40PAg7F #2ag4: 40

CaseC2::03-5::1-000027097216VBIDFocDmoentnentF21261-01/21260303P26124:841 124ge 123ge 44ge 123ge 44

CONTINUATION SHEET FOR APPLICATION FORMS



If at all possible, try to fit the information called for into the spaces provided on the basic form. If you do not have enough space for all the information you need to give on the basic form, use

this Continuation Sheet and submit it with the basic form.

If you submit this Continuation Sheet, clip (do not tape or staple) it to the basic form and fold the two together before submitting them.

Space A of this sheet is intended to identify the basic application. Space B is a continuation of Space 2 on the basic application. Space B is not applicable

Space C (on the reverse side of this sheet) is for the continuation of Spaces 1, 4, or 6 on the basic application or for the continuation of Space 1 on any of the three Short Forms UNITED STATES COPYRIGHT DEFICE TXu 1-036-063 PAIPAUISEISECISEUISCISCUITXITXUVAIVAU EFFECTIVE DATE OF REGISTRATION JUN ! 4 2002 (Day) (Year) CONTINUATION SHEET RECEIVED JUN 1 4 2002

TX, or V	ABOVE THIS LINE. FOR COF	YRIGHT OFFICE USE ONLY	Page 3 o	1 <u>4</u> pa	ges			
	IDENTIFICATION OF CONTI form submitted for the followin • TITLE: (Give the title as given Cisco IOS 11.2 • NAME(S) AND ADDRESS(ES	INUATION SHEET: This sheet is a continuation of g work: In under the heading "Title of this Work" in Space 1 (a) OF COPYRIGHT CLAIMANT(S): (Give the name	of the basic form.) and address of at leas	,				
ation	Cisco Technology, In NAME OF AUTHOR ▼ (See Space C)	ic., 170 West Tasman Drive, San Jose	DATES OF BIRTY	H AND DEATI Year Di	H ed▼			
a B	a"work made for hire"?	ork AUTHOR'S NATIONALITY OR DOMICILE Name of Country OR Citizen of Domiciled in	WAS THIS AUTI THE WORK Anonymous?	П v П Na	If the second to still			
uation ace 2	☐ Yes ☐ No NATURE OF AUTHORSHIP	Domiciled in Briefly describe nature of the material created by the						
	NAME OF AUTHOR ▼		DATES OF BIRT Year Born▼		H			
е	a work made for hire?	Name of Country Citizen of Citizen of	WAS THIS AUT THE WORK Anonymous?	n n	11 the second to 20			
	a work made for life? Anonymous? □ Yes □ No of these questions? □ Yes □ No of the Yes □ No							
	NAME OF AUTHOR ▼		DATES OF BIRT	التنجيبي ويندون	Н			
1	Was this contribution to the was work made for hire?	ork AUTHOR'S NATIONALITY OR DOMICILE Name of Courtry	WAS THIS AUT THE WORK Anonymous?	HOR'S CONT				
	☐ Yes ☐ No	OR Citizen of ▶ Domiciled in ▶	Pseudonymous?	□ Yes □ No				

NATURE OF AUTHORSHIP Briefly describe nature of the material created by the author in which copyright is claimed. ▼

CONTINUATION OF (Check which):	☐ Space	≥1 □ Space 4	□ Space 6 💌			
Name of Author	Work for Hire	Domicile	Anonymous	Pseudo- nymous	Nature of Contribution	Continuation
	Yes	United States	Yes	No	Computer code	of other
ABE Staffing Services, Inc.	Yes	United States	Yes	No	Computer code	Spaces
HCL America, Inc.	Yes	India	Yes	No	Computer code	
HCL Consulting Limited	Yes	United States	Yes	No	Computer code	
Network Aware, Inc.	Yes	United States	Yes	No	Computer code	
Metaplex, Inc.	Yes	United States	Yes	No	Documentation	
Nano Solutions NSA	Yes	United States	Yes	No	Documentation	
Oakhill Publications/ Computer Education Consulting	Yes	United States	Yes	No	Documentation	
Rick Barron	No	United States	Yes	No	Documentation	
Rev Talbott	No	United States	Yes	No	Documentation	

Certificate will be mailed in	Nume ▼ Susanne S. Morales, Paralegal / Fenwick & West LLP
window envelope to this	Number/StreeNApt ▼ 2 Palo Alto Square
address:	Palo Alto, CA 94306

Complete of necessary speces
 Sign your application

SERCIALL SELEMENTS BY THE SAME PACKAGE

 Application form
 Norretundable tee in check or money order psyable to Register of Copyrights
 Deposit Material

Library of Congrues, Copyright On 101 Independence Avenue, S.E. Weekington, D.C. 20509-6000 D

Foco are offueline through June 39, 2022. Alan But data, thesh the Capyright office Website at worst.bac.povicepyright or sell (202) 707.3000 for ourself too intermedien.

EXHIBIT D

Copyright Character Copyright Character Copyright Character Copyright Character Copyright Character Charac

For current fees, check the yright Office website at www.copyright.gov, write the Copyright Office, or call (202) 707-3000.

For Supplementary Registration UNITED STATES COPYRIGHT OFFICE

REGISTRATION NUMBER

TX TXU PA PAU VA VAU SR SRU RE EFFECTIVE DATE OF SUPPLEMENTARY REGISTRATION

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET, Title of Work ▼ Cisco IOS 11.3 Registration Number of the Basic Registration V Year of Basic Registration V TXu 1-036-062 2002 Name(s) of Author(s) ▼ Name(s) of Copyright Claimant(s) ▼ Please see Space D for list of author names Cisco Technology, Inc. Location and Nature of Incorrect Information in Basic Registration \ Line Heading or Description Name of Author Line Number 2a Incorrect Information as It Appears in Basic Registration ▼ Cisco Systems, Inc. Corrected Information ▼ Cisco Systems Sales & Services, Inc. **Explanation of Correction** ▼ correct name of author Location and Nature of Information in Basic Registration to be Amplified V Line Number 2b and C Line Heading or Description Name of Author Amplified Information and Explanation of Information ▼ Please add to the following to the list of authors: Name of Author: Cisco Technology, Inc.

Nature of Contribution: Computer code and documentation

Work for Hire: Yes
Domicile: United States
Anonymous: No
Pseudonymous: No

		.				ELINDS D	ECEIVED	DATE .			
		•		• .		ון פעונטיו	ECEIVED :	DA IE	•••		• .
		•					· · ·			٠	•
						EXAMINE	D BY				FOR
•	•								•	· · · · · · · · · · · · · · · · · · ·	COPYRI
				· :-	•	CORRESP	PONDENC	EO		· 	OFFIC USE
	•						105 50 5				ONL
					• .			•	TRATION A		
						DASIC RE	GISTRATI	<u>UN</u>	O YES	□ NO	
O NOT W	/RITE ABOVE THIS L	INE. IF YOU NE	ED MORE S	PACE, USE	A SEPARAT	TE CONTINI	UATION S	HEET.			
	on of: DPart B or										
· ·	one. Circle o		ELA		•						
		•					•		•	•	· <u> </u>
Claco St	ystems, Inc.			•			:			••	
	erica, Inc.	·		•			·				
	nsulting Limited								* 4		:
Metaple:		•		. •							•
	oft Corp.					i					
Nano Sc									: .	•	
	Publications / Com		ion Consu	lting		•		•		•	
	ffing Services, Inc	•	•				•	•	·	•	,•
	-Ramsay			. '					. •		
Kevin Sh									•		
Rick Bar	ron			•				•			
• • • • • • • • • • • • • • • • • • • •	•		•	·		2					•
Tu T. Tsa		address to which	corresponde	ence about ti	nis applicatio	n should be	sent.				C
Tu T. Tsa Fenwick & 801 Califo		address to which	correspond	ence about t	nis applicatio	n should be	sent.				E
Tu T. Tsa Fenwick & 801 Califo Mountain	io, Esq. Il West LLP ornia Street		correspond		· :		sent. Imell ttsa	o ⊛ fenw	rick.com		E
Tu T. Tsa Fenwick & 801 Califo Mountain hone (<u>65</u>	io, Esq. Is West LLP ornia Street View, CA 94041 IO) 335-7696		Fax (650 :) <u>938-520</u>	0	E	imali ttsa			when of A co	E
Tu T. Tsa Ferwick & 801 Califo Mountain hone (.65 Peposit Acc	o, Esq. L West LLP omla Street View, CA 94041		Fax (650 :) <u>938-520</u>	0	E	imali ttsa			mber of Acco	E count.
Tu T. Tsa Ferwick & 801 Califo Mountain hone (.65 Peposit Acc	io, Esq. Is West LLP ornia Street View, CA 94041 IO) 335-7696		Fax (650 :) <u>938-520</u>	0	E	imali ttsa			mber of Acco	E mut.
Tu T. Tsa Ferwick & 801 Califo Mountain Those (<u>65</u>	to, Esq. Nest LLP ornia Street View, CA 94041 O) 335-7696 count: If the registration		Fax (650 :) <u>938-520</u>	0	E	imali ttsa			mber of Acco	E
Tu T. Tsa Fenwick & 801 Califo Mountain Thone (65 Deposit Accurate Nu	to, Esq. Nest LLP ornia Street View, CA 94041 O) 335-7696 count: If the registration	on fee is to be cha	Fax (650) 938-520 eposit Accou	O nt established	E	imali ttsa			nber of Acc	E
Tu T. Tsa Fenwick & 801 Califo Mountain Thone (65 Deposit Accurate Nu	No. Esq. No. West LLP ornia Street View, CA 94041 O) 335-7696 count: If the registration mber 1* I, the undersigned, I	on fee is to be cha hereby certify tha □ own	Fax (650 arged to a De	938-520 posit Accou	O nt established	El in the Cop	imail tisa yright Offi			mber of Acco	E count.
Tu T. Tsa Fenwick & 801 Calife Mountain hone (65 Peposit Acciame	to, Esq. Newst LLP ornia Street View, CA 94041 O) 335-7696 count: If the registration mber	on fee is to be cha hereby certify tha □ own	Fax (650 arged to a De	938-520 eposit Account	O nt established	in the Copy	imail ttea yright Offi c.	ce, give n	ame and nur		F
Tu T. Tsa Fenwick & 801 Califo Mountain thone (65 Peposit Acc	No. Esq. No. West LLP ornia Street View, CA 94041 O) 335-7696 count: If the registration mber at I, the undersigned, I author other copyright of	on fee is to be chat hereby certify the own laimant 12 duly	Fax (650 arged to a De at I am the: (6 er of exclusive authorized a	938-520 check only coveright(s) agent of Coveright (s) Name	Ont established wite) Claco Techi	I in the Copy nology, Incorpy other copy	yright Office.	ce, give n	nme and nur	ive right(s) 🛦	F
Tu T. Tsa Fenwick & 801 Celifo Mountain thone (.65 Peposit Acciance 	No. Esq. No. West LLP ornia Street View, CA 94041 O) 335-7696 count: If the registration mber average average author other copyright cl of the work identifie	on fee is to be chat hereby certify the own laimant 12 duly	Fax (650 arged to a De at I am the: (6 er of exclusive authorized a	938-520 check only coveright(s) agent of Coveright (s) Name	O nt established	I in the Copy nology, Incorpy, Incorpy	yright Office.	oe, give na	arne and nur	ive right(s) 🛦	F
Tu T. Tsa Fenwick & 801 Califo Mountain thone (.65 Deposit Acciance Laccount Nu Pertification	No. Esq. No. Esq. No. West LLP ornia Street View, CA 94041 No.) 335-7696 count: If the registration mber later in the index signed, later in the copyright of the work identifie	on fee is to be chat hereby certify the own laimant 12 duly	Rax (650) arged to a De at I am the: (er of exclusive suthorized a	938-520 check only coveright(s) agent of Capenton he statement	ont established ne) Claco Techt ne of author of made by me	I in the Copy nology, Incorpy, Incorpy	yright Office.	ce, give n	arne and nur	ive right(s) 🛦	F
Tu T. Tas Fenwick & 801 Calife Mountain Thone (65 Deposit Acc lame Account Nu Pertification	to, Esq. News LLP ornia Street View, CA 94041 O) 335-7696 count: If the registration mber at I, the undersigned, I author of the work identified inted name Robe	on fee is to be chathereby certify the laiment of duly	Rax (650) arged to a De at I am the: (er of exclusive suthorized a	938-520 check only coveright(s) agent of Capenton he statement	ont established ne) Claco Techt ne of author of made by me	I in the Copy nology, Incorpy, Incorpy	yright Office.	oe, give na	arne and nur	ive right(s) 🛦	F
Tu T. Tsa Fenwick & 801 Calife Mountain hone (65 Peposit Acc lame	No. Esq. No. Esq. No. West LLP ornia Street View, CA 94041 No.) 335-7696 count: If the registration mber later in the index signed, later in the copyright of the work identifie	on fee is to be chathereby certify the laiment of duly	Rax (650) arged to a De at I am the: (er of exclusive suthorized a	938-520 check only coveright(s) agent of Capenton he statement	ont established ne) Claco Techt ne of author of made by me	I in the Copy nology, Incorpy, Incorpy	yright Office.	oe, give na	arne and nur	ive right(s) 🛦	F
Tu T. Tsa Fenwick & 601 Calife Mountain hone (65 eposit Acc same count Nu ertification	to, Esq. News LLP ornia Street View, CA 94041 O) 335-7696 count: If the registration mber at I, the undersigned, I author of the work identified inted name Robe	on fee is to be chathereby certify the laiment of duly	Rax (650) arged to a De at I am the: (er of exclusive suthorized a	938-520 check only coveright(s) agent of Capenton he statement	ont established ne) Claco Techt ne of author of made by me	I in the Copy nology, Incorpy, Incorpy	yright Office.	oe, give na	arne and nur	ive right(s) 🛦	F
Tu T. Tsa Fenwick & 801 Calife Mountain hone (65 eposit Acc some count Nu ertification yped or pro	No. Esq. No. Esq. No. West LLP Ornia Street View, CA 94041 No.) 335-7696 Nount: If the registration mber lauthor of the work identified inted name Robel a signature (X)	on fee is to be chathereby certify the laiment of duly	Rax (650) arged to a De at I am the: (er of exclusive suthorized a	938-520 check only coveright(s) agent of Capenton he statement	ont established ne) Claco Techt ne of author of made by me	I in the Copy nology, Incorpy, Incorpy	yright Office.	unt, or own	ner of exclusions better the best of m	ive right(s) A y knowledge	F
Tu T. Tsa Fenwick & 601 Calife Mountain hone (.65 eposit Acc same coount Nu ertification yped or pr andwritter	Nome V	hereby certify the	Fax (650 arged to a De at I am the: (6 er of exclusive authorized a con and that the oridwide Pa	check only coveright(s) agent of Court	one) Cisco Techine of author of made by me	I in the Copy nology, Incorpy, Incorpy	yright Office.	unt, or own	ner of exclusions best of my	ive right(s) A y knowledge	F
Tu T. Tsa Fenwick i 801 Calife Mountain hone (.65 eposit Acc sme count Nu ertification yped or pri andwritten ertificate ii be alled in	Name V S West LLP Sornia Street View, CA 94041 S 335-7696 Sount: If the registration The undersigned, I will be a signature (X) Name V Susanne S. Mo	hereby certify the	Fax (650 arged to a De at I am the: (6 er of exclusive authorized a con and that the oridwide Pa	check only coveright(s) agent of Court	one) Cisco Techine of author of made by me	I in the Copy nology, Incorpy, Incorpy	yright Office.	ant, or own	ner of exclusion to the best of my appearance of the period of the perio	ive right(s) A y knowledge / Q 3	F
Tu T. Tsa Fenwick & 801 Calife Mountain hone (.65 eposit Acc same coount Nu ertification yped or pr andwritter andwritter ertificate alled in ndow	Nome V	hereby certify the	Fax (650 arged to a De at I am the: (6 er of exclusive authorized a con and that the oridwide Pa	check only coveright(s) agent of Court	one) Cisco Techine of author of made by me	I in the Copy nology, Incorpy, Incorpy	yright Office.	ant or own	ner of exclusion by best of my application in Spanish	ive right(s) A y knowledge / Q 3	F
Tu T. Tsa Fenwick & 801 Calife Mountain thone (.65 Deposit Accumit Nu Pertification yped or pro- landwritter ertificate ertificate inidow nvelope	Name V S West LLP Sornia Street View, CA 94041 S 335-7696 Sount: If the registration The undersigned, I will be a signature (X) Name V Susanne S. Mo	hereby certify the own laiment Z duly d in this application A. Barr, Wo	Fax (650 arged to a De at I am the: (6 er of exclusive authorized a con and that the oridwide Pa	check only coveright(s) agent of Court	one) Cisco Techine of author of made by me	I in the Copy nology, Incorpy, Incorpy	yright Office.	nut, or own	ner of exclusion between the best of my all mosessery as application in the state of the state o	ive right(s) A y knowledge / Q 3	F
Tu T. Tas Fenwick i 801 Calife Mountain Thone (65 Deposit Acc Jame Account Nu Certification	Name V Si West LLP Sornia Street View, CA 94041 Signature (X) Name V Susanne S. Mc NumberStreet/At 1 New Street Note the work identifies Name V Susanne S. Mc NumberStreet/Apt V	hereby certify the own laiment Z duly d in this application A. Barr, Wo	Fax (650 arged to a De at I am the: (6 er of exclusive authorized a con and that the oridwide Pa	check only coveright(s) agent of Court	one) Cisco Techine of author of made by me	I in the Copy nology, Incorpy, Incorpy	yright Office.	ant or own	ner of exclusion to the best of my application in the state of the sta	ive right(s) A y knowledge / Q 3	F
Tu T. Taa Fenwick i 801 Calife Mountain hone (.65 Peposit Acc lame	Name V Susanne S. Mo NumberStreet/Apr V Susanne S. Mo	thereby certify the state of the certify the certify the state of the certific the certification that certific the certific t	Fax (650 arged to a De at I am the: (6 er of exclusive authorized a con and that the oridwide Pa	check only coveright(s) agent of Court	one) Cisco Techine of author of made by me	I in the Copy nology, Incorpy, Incorpy	yright Office.	Date V	ner of exclusion between the best of my all necessary age application in the best of my all necessary age application in the best of the b	ive right(s) A y knowledge / Q 3	F

Case 2:03-5:1-6000279 92 5 BID Octone into the Hale of 1/2 2015 Case 2:03 for 1-2015 Case 2:0

*17 U.S.C. § 506(a): Any person who knowingly makes a later representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shall be fined not more than \$2,500.



F. Iondramatic Literary Work
UN11ED STATES COPYRIGHT OFFICE



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.



EFFECTIVE DATE OF REGISTRATION

JUN 1 4 2002

REGISTER OF COPYRIGHTS United States of America DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET. OFFICIAL SEAL TITLE OF THIS WORK Y Cisco IOS 11.3 PREVIOUS OR ALTERNATIVE TITLES ▼ Cisco IOS Release 11.3; Cisco IOS Version 11.3; Cisco Internetwork Operating System 11.3; Cisco Internetwork Operating System Release 11.3; Cisco Internetwork Operating System Version 11.3 PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared.
This of Collective Work ▼ On Pages V Issue Date V Number ¥ If published in a periodical or serial give: Volume ▼ DATES OF BIRTH AND DEATH NAME OF AUTHOR V Year Died V Year Born ▼ a Cisco Systems, Inc. WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK AUTHOR'S NATIONALITY OR DOMICILE Was this contribution to the work a □Yes E No work made for hire? Anonymous? Citizen of ▶ □Yes Ø No MY e OR Pseudonymous? United States Domiciled in NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. Very and revised computer code and accompanying documentation NOTE DATES OF BIRTH AND DEATH Year Born ▼ Year Died V NAME OF AUTHOR Y Under the law See Attached Form TX/CON for Additional Authors he "author" of a "work made for hire" is WAS THIS AUTHOR'S CONTRIBUTION TO AUTHOR'S NATIONALITY OR DOMICILE for hire is generally the amployer, not the employee (see instructions). For any part of this work that was "made for hire check "Yee" in the spece provided, give the employer Was this contribution to the work a THE WORK ☐ Yes ☐ No Anonymous? work made for hire"? Citizen of OR DYS D No ☐ Yes Pseudonymous? NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. DATES OF BIRTH AND DEATH Year Died ▼ NAME OF AUTHOR * Year Born V the employer WAS THIS AUTHOR'S CONTRIBUTION TO AUTHOR'S NATIONALITY OR DOMICILE (or alther person for THE WORK whom the work Was this contribution to the work a was prepared) as "Author" of OYes □ No work made for hire*? Anonymous? Citizen of DYes O No [] Yes that part, and leave the space for dates Pseudonymous? Domiciled in NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. death blank DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK YEAR IN WHICH CREATION OF THIS Complete ONLY If the has been plate this inform ' If this work WORK WAS COMPLETED This information when the given in all cooses. a APPRICATION RECEIVED COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as ONE DEPOSIT RECEIVED the author given in space 2. \forall MN. 14.2002 Cisco Technology, Inc. 170 West Tasman Drive TWO DEPOSITS RECEIVED San Jose, CA 95134 TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright. ▼ FUNOS RECEIVED By agreement

		EXAMINED BY TWIS	FORM TX
		CHECKED BY	
			FOR
		CORRESPONDENCE	COPYRIGHT OFFICE
		L Yes	USE
			ONLY
DO	NOT WRITE ABOVE THIS LINE. IF YOU NEED	MORE SPACE, USE A SEPARATE CONTINUATION SHEET.	
TO SECOND	CICTO ATION Has registration for this work, or for a	n earlier version of this work, already been made in the Copyright Office:	
- DNo K	vous answer is "Yes," why is another registration being	200Butt (Critery abbushame are)	J
This is the fir	st published edition of a work previously registered in t	iment.	
This is the fir	st application submitted by this author as copyright clainged version of the work, as shown by space 6 on this ap	oplication.	
This is a chan	Van " nive: Previous Registration Number P	2002	
		2002	
rexisting Mater	WORK OR COMPILATION rial Identify any preexisting work or works that this wo	ork is based on or incorporates. 🔻	a 6
ior works by	y claimant and preexisting third party comp	puter code	See Instructions
		erial that has been added to this work and in which copyright is claimed.	
alerial Added t	to This Work. Give a brief, general statement of the man ised computer code and accompanying doc	aumentation	D
4CM MIN 101			
1,		whilehold in the Commists Office, give name and number	of Account.
SPOSIT AC	COLINT If the registration fee is to be charged to a De	work Assessed activities in the Copyright Control B.	· · ·
711 COLI 11-0.	COUNTY IN THE COURT	Account Number V	a 7
Name V		posit Account established in the Copyright Office, give name and number of Account Number V	a [
isme ♥			
iame ♥			
orrespon	IDENCE Give name and address to which correspond	Account Number ▼ lence about this application should be sent. Name/Address/Apt/City/S	
isme ♥	IDENCE Give name and address to which correspond		
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto	IDENCE Give name and address to which correspond Esq. West LLP Square		
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto,	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306	dence about this application should be sent. Name/Address/Apt/City/S	
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto,	IDENCE Give name and address to which correspond Esq. West LLP Square		
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto, Palo Alto, (ree code and day	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306	dence about this application should be sent. Name/Address/Apt/City/S	
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, (Vess code and day irred b ttsao(IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 time telephone number > (650) 858-7696 Rifenwick.com	tence about this application should be sent. Name/Address/Apt/City/S Fax number (650) 494–1417	
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, (Vess code and day irred b ttsao(IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 time blophone number > (650) 858-7696	Fax number (650) 494–1417	
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, (wee code and day tmail b ttsao(CERTIFICAT	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 Ame telephone number > (650) 858-7696 Offenwick.com TON* 1, the undersigned, hereby certify that 1 am the	Fan number (650) 494-1417 Sunthor Other copyright claimant Owner of exclusive right(s) Cisco Technology, Inc.	b
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, (rese code and day irred b ttsao(c	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 Item telephone number > (650) 858-7696 Defenwick.com TON* 1, the undersigned, hereby certify that 1 am the Check only on	Fax number (650) 494–1417	b
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, (rescode and day irred) ttsao(CERTIFICAT of the work iden by me in this ac	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 Item understand (650) 858-7696 Referwick.com TON* I, the understand, hereby certify that I am the Check only or mithed in this application and that the statements made optication are correct to the best of my knowledge.	Fax number (650) 494–1417 Surthor Other copyright claimant Owner of exclusive right(s) Each of surthor exclusive right(s) Owner of exclusive righ	b
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, (rescote and day irred) ttsao(CERTIFICAT of the work iden by me in this ap Typed or print	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 dime telephone number ▶ (650) 858-7696 Referwick.com TON* I, the undersigned, hereby certify that I am the Check only or mithed in this application and that the statements made optication are correct to the best of my knowledge. ed name and date ▼ If this application gives a date of p	Fan number (650) 494-1417 Sunthor Other copyright claimant Owner of exclusive right(s) Cisco Technology, Inc.	b
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, (wee code and day multiple ttsao CERTIFICAT of the work idea by me in this ap Typed or print Robert A.	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 Ame telephone number > (650) 858-7696 Offenwick.com TON* I, the undersigned, hereby certify that I am the Check only of nutfied in this application and that the statements made oplication are correct to the best of my knowledge. ed name and date ▼ If this application gives a date of p Barr, Worldwide Patent Counsel	Fax number (650) 494–1417 The comparison of surface or other copyright claimant of cisco Technology, Inc. Team of surface or other copyright claimant, or owner of each or of surface or other copyright claimant, or owner of each other copyright claimant.	b
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, (wee code and day multiple ttsao CERTIFICAT of the work idea by me in this ap Typed or print Robert A.	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 Ame telephone number > (650) 858-7696 Offenwick.com TON* I, the undersigned, hereby certify that I am the Check only of nutfied in this application and that the statements made oplication are correct to the best of my knowledge. ed name and date ▼ If this application gives a date of p Barr, Worldwide Patent Counsel	Fax number (650) 494–1417 The comparison of surface or other copyright claimant of cisco Technology, Inc. Team of surface or other copyright claimant, or owner of each or of surface or other copyright claimant, or owner of each other copyright claimant.	b
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, (ree code and day mail > ttsao CERTIFICAT of the work idea by me in this ap Typed or print Robert A.	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 Ame telephone number > (650) 858-7696 Offenwick.com TON* I, the undersigned, hereby certify that I am the Check only of nutfied in this application and that the statements made oplication are correct to the best of my knowledge. ed name and date ▼ If this application gives a date of p Barr, Worldwide Patent Counsel	Fax number (650) 494–1417 The comparison of surface or other copyright claimant of cisco Technology, Inc. Team of surface or other copyright claimant, or owner of each or of surface or other copyright claimant, or owner of each other copyright claimant.	b
ORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, (res code and day mull b ttsao(CERTIFICAT Typed or print Robert A.	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 dime telephone number ▶ (650) 858-7696 Referwick.com TON* I, the undersigned, hereby certify that I am the Check only or mithed in this application and that the statements made optication are correct to the best of my knowledge. ed name and date ▼ If this application gives a date of p	Fax number (650) 494–1417 The comparison of surface or other copyright claimant of cisco Technology, Inc. Team of surface or other copyright claimant, or owner of each or of surface or other copyright claimant, or owner of each other copyright claimant.	b
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, (ree code and day mail > ttsao CERTIFICAT of the work idea by me in this ap Typed or print Robert A.	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 Ame telephone number > (650) 858-7696 Offenwick.com TON* I, the undersigned, hereby certify that I am the Check only of nutfied in this application and that the statements made oplication are correct to the best of my knowledge. ed name and date ▼ If this application gives a date of p Barr, Worldwide Patent Counsel	Fax number > (650) 494–1417 Surthor Other copyright claimant Owner of exclusive right(s) Fax number of exclusive right(s) Parthorized agent of teams of authorized agent of teams of subror or other copyright claimant, or owner of exclusive right (size) Date Dat	Charine sign(a) A
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, (ree code and day mult b ttsao CERTIFICAT of the work idea by me in this ap Typed or print Robert A. X	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 Item interphone number > (650) 858-7696 Offenwick.com TON* I, the undersigned, hereby certify that I am the Check only or nitified in this application and that the statements made oplication are correct to the best of my knowledge. ed name and date ▼ If this application gives a date of part, Worldwide Patent Counsel Plandwritten algusture (0) ▼	Fas number (650) 494–1417 author other copyright claimant owner of exclusive right(s) Eauthorized agent of Name of author or other copyright claimant Name of author or other copyright claimant Output of author or other copyright claimant, or owner of author or other copyright claimant.	Charine styli(s) A
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, Certificate with be	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 Ame telephone number > (650) 858-7696 Offenwick.com TON* I, the undersigned, hereby certify that I am the Check only of nutfied in this application and that the statements made oplication are correct to the best of my knowledge. ed name and date ▼ If this application gives a date of p Barr, Worldwide Patent Counsel	Fan number (650) 494–1417 Sunthor Other copyright claimant Other copyright claimant, or enter on copyright claimant, or enter of an outblication in space 3, do not sign and submit it before that date. Date Date Other copyright claimant, or enter of copyright claimant Other copyright Other copyri	Chairve right(s) A
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, Certificate with be mailed in	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 Ame telephone number > (650) 858-7696 Offenwick.com TON* I, the undersigned, hereby certify that I am the Check only of nutfied in this application and that the statements made oplication are correct to the best of my knowledge. The definition of the statements of the statements made oplication are correct to the best of my knowledge. The definition of the statements of the statement of the s	Fan number (650) 494–1417 The number (650) 494–1417 The number (650) 494–1417 The number (650) 494–1417 The number of exclusive right(s) (1500) Technology, Inc. The number of substrain and submit it before that date. Date Date (1500) Date (Chaine sign(s) A
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, Cree code and day insal b Itsao@ CERTIFICAT of the work identy me in this ap Typed or print Robert A. X Certificate will be	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 Ame unterphone number > (650) 858-7696 Offenwick.com TON* I, the undersigned, hereby certify that I am the Check only of intified in this application and that the statements made optication are correct to the best of my knowledge. The definition of the property of the statements made optication are correct to the best of my knowledge. The definition of the statements made optication are correct to the best of my knowledge. The definition of the statements made optication are correct to the best of my knowledge. The definition of the statements made optication are correct to the best of my knowledge. The definition of the statements made optication are correct to the best of my knowledge. The definition of the statements made optication are correct to the best of my knowledge. The definition of the statements made optication are correct to the best of my knowledge. The definition of the statements made optication are correct to the best of my knowledge. The definition of the statements made optication are correct to the best of my knowledge. The definition of the statements made optication are correct to the best of my knowledge.	Fan number (650) 494–1417 The number (650) 494–1417 The number (650) 494–1417 The number (650) 494–1417 The number of exclusive right(s) (1500) Technology, Inc. The number of substrain and submit it before that date. Date Date (1500) Date (Chains sign(a) A Chains sign(
CORRESPON Tu T. Tsao, Fenwick & 2 Palo Alto Palo Alto, (Area code and day Ernel ttsao CERTIFICAT of the work ide by me in this ap Typed or print Robert A. X Certificate will be mailed in window	IDENCE Give name and address to which correspond, Esq. West LLP Square CA 94306 Ame telephone number > (650) 858-7696 Offenwick.com TON* I, the undersigned, hereby certify that I am the Check only of nutfied in this application and that the statements made oplication are correct to the best of my knowledge. The definition of the statements of the statements made oplication are correct to the best of my knowledge. The definition of the statements of the statement of the s	Fan number (650) 494–1417 The number (650) 494–1417 The number (650) 494–1417 The number (650) 494–1417 The number of exclusive right(s) (1500) Technology, Inc. The number of substrain and submit it before that date. Date Date (1500) Date (Chaine April 10 A

CaseC2::03-5c:1-6000279\$25WBIDFocDomentnentF2lebt-01/22:60B03\$Patgle 847 104676 \$Page1D\$#: 47

CONTINUATION SHEET FOR APPLICATION FORMS

- This Continuation Sheet is used in conjunction with Forms CA, PA, SE, SR, TX, and VA, only. Indicate which basic form you are continuing in the space in the upper right-hand corner.
- If at all possible, try to fit the information called for into the spaces provided on the basic form.
- If you do not have enough space for all the information you need to give on the basic form, use this Continuation Sheet and submit it with the basic form.
- If you submit this Continuation Sheet, clip (do not tape or staple) it to the basic form and fold the two together before submitting them.
- Space A of this sheet is intended to identify the basic application. Space B is a continuation of Space 2 on the basic application. Space B is not applicable

Space C (on the reverse side of this sheet) is for the continuation of Spaces 1, 4, or 6 on

the basic application or for the continuation of Space 1 on any of the three Short Forms PA, TX, or VA

ORM	TX	CON
UNITED STATES CO	PYRIGHT OF	FICE



PA PAU SE	SEG	SEU	SR	SRU	ΤX	TXUVA	VAU
EFFECTIVE							

JUN 1 4 2002

(%	Aonthi)	(Day)	(Year)
CONTI	NUATION SH JUN 1	4 2002	/ED
Page	3_0	4	ages

Pseudonymous? Tes I No in

O Yes

□ No

PA, TX, OF V	^	Page of pages
O NOT WRITE	ABOVE THIS LINE. FOR COPYRIGHT OFFICE USE ONLY	
Δ	IDENTIFICATION OF CONTINUATION SHEET: This sheet is a continuation of the form submitted for the following work: • TITLE: (Give the title as given under the heading "Title of this Work" in Space 1 of Cisco IOS 11.3 • NAME(S) AND ADDRESS(ES) OF COPYRIGHT CLAIMANT(S): (Give the name as In Space 4 of the basic form or Space 2 of any of the Short Forms PA. TX, or VA.) Cisco Technology, Inc., 170 West Tasman Drive, San Jose,	f the basic form.) nd address of at least one copyright claiment as given
Дрисской	NAME OF AUTHOR V	DATES OF BIRTH AND DEATH Year Born Year Died Year Died Year Died Year Died
	(See Space C)	19th Born A
p d	Was this contribution to the work AUTHOR'S NATIONALITY OR DOMICILE	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous?
Continuation	a*work made for hire*? □ Yes □ No.	Pseudonymous? Yes No No instructions.
of Space 2	NATURE OF AUTHORSHIP Briefly describe nature of the material created by the NAME OF AUTHOR ▼	DATES OF BIRTH AND DEATH Year Born
	NAME OF AUTHOR V	Jem Bou A
e	Was this contribution to the work AUTHOR'S NATIONALITY OR DOMICILE	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous? Yes No If the ensurer to either of these questions is
,	8 WORK Made for since (Citizen of	Anonymous?
	☐ Yes ☐ No ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Pseudonymous:
	NATURE OF AUTHORSHIP Briefly describe nature of the material created by the	te author in which copyright is calmino.
	NAME OF AUTHOR ▼	DATES OF BIRTH AND DEATH Year Born♥ Year Died♥
	f	A THE CONTRIBUTION TO
	Was this contribution to the work AUTHOR'S NATIONALITY OR DOMICILE a work made for hire?	WAS THIS AUTHOR'S CONTRIBUTION TO THE WORK Anonymous?
	Citizen of >	- "Yes," see detailed

NATURE OF AUTHORSHIP Briefly describe nature of the material created by the author in which copyright is claimed. ▼

Domiciled in

CONTINUATION OF (Check which):	ن Space ا	Space 4	☐ Space 6 📝	Spa.	∆b	C
Name of Author	Work for Hire	Domicile	Anonymous	Pseudo- nymous	Nature of Contribution	Continuation
HCL America, Inc. HCL Consulting Limited Metaplex, Inc. Technosoft Corp. Nano Solutions	Yes Yes Yes Yes Yes	United States India United States United States United States	Yes Yes Yes Yes Yes	No No No No No	Computer code Computer code Computer code Computer code Documentation	of other Spaces
Oakhill Publications/ Computer Education Consulting ABE Staffing Services, Inc. Lasselle-Ramsay Kevin Shafer Rick Barron	Yes Yes Yes No No	United States United States United States United States United States	Yes Yes Yes Yes Yes	No No No No No	Documentation Documentation Documentation Documentation Documentation	

Certificate will be malled in	Name ▼ Susanne S. Morales, Paralegal / Fenwick & West LLP	YOU MUST Complete all necessary openes Sign your application SERD ALL SELEMENTS IN THE SAME PAGKAGE	D
window envelope to this address:	Number/Street/Apt ▼ 2 Palo Alto Square Cky/State/ZIP ▼ Palo Alto, CA 94306	Alonyshmabile tee in check or money order payable to Register of Copyrights Supposit Meterial Alonyshmabile Alonyshmabile	2002, Alter that date, about the Copyright office Verbalin of your longer leading right or our copyright 707-3000 for payrent

EXHIBIT E

Copyright 1000 270 374 Copyright in Filed-01/224030 3Fatje 5 PAOELAF

For current fees, check the syright Office website at www.copyright.gov, write the Copyright Office, or call (202) 707-3000.

For Supplementary Registration
UNITED STATES COPYRIGHT OFFICE

REGISTRATION NUMBER

TX TXU PA PAU VA VAU SR SRU RE

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET. Title of Work ▼ Cisco IOS 12.0 Registration Number of the Basic Registration ▼ Year of Basic Registration ▼ TXu 1-036-064 2002 Name(s) of Author(s) ▼ Name(s) of Copyright Claimant(s) ▼ Cisco Technology, Inc. Please see Space D for list of author names Location and Nature of Incorrect Information in Basic Registration V Name of Author Line Number 2a Line Heading or Description Incorrect Information as It Appears in Basic Registration ▼ Cisco Systems, Inc. Corrected Information ▼ Cisco Systems Sales & Services, Inc. Explanation of Correction ▼ correct name of author Location and Nature of Information in Basic Registration to be Amplified V Line Heading or Description Name of Author Line Number 2b and C Amplified Information and Explanation of Information ▼ Please add the following to the list of authors: Name of Author: Cisco Technology, Inc. Work for Hire: Yes Domicile: United States Anonymous: No Pseudonymous: No

Nature of Contribution: Computer code and documentation

		•		•	,			
		•		· Fl	UNDS RECEIVED	DATE	 ,	
		•	٠.					•
				_	VALUE DE DA	<u> </u>		
			-	. Đ	KAMINED BY		t	FOR
				· C	ORRESPONDENC	EO		COPYRIGHT OFFICE
				•				USE
			•			IS REGISTRATION		
			•	<u>B/</u>	ASIC REGISTRATI	ON DYES	O NO	• •
DO NOT W	: 'RITE ABOVE THIS LINE	F YOU NEED M	ORE SPACE, USE A	SEPARATE (ONTINUATION S	HEET,	•	
	on of: Part B or Pr						1	
	•	٠٠٠- الما بــــــــــــــــــــــــــــــــــــ		•	*	•	:	
Claco Sys	stems, Inc. Imployment Services		•	• .	•	•		
Avnisoft C	Corporation			•				
	suiting Limited		•		. • . • . • . •			• ,
HCL' Ame	onca, inc. Company LLC					• •		
Aguas	Company LLC		• • •	•			•	-
Metaplex,		•				•		
Rapidigm Wipro Lim								
Lasselle-F								,
Oakhill Pu	blications / Computer I	Education Consul	ting .		•			
Rick Barro				•	•		•	
Judy Mela	onsultants, inc.				•			
July Mole							•	•
•				• ;				₹ .
Correspond	ence: Give name and add	ress to which corre	pondence about this	application sh	ould be sent.			
Tu T. Tsa			•		•	`-		
Fenwick 8	L West LLP						4 %	
	omia Street		$\mathcal{A}^{(n)}$ $\mathcal{A}^{(n)}$				<i>F</i>	
	View, CA 94041 0) 335-7696	T (650) 938-5200		p ttsa	o@fenwick.com		:
•		·						- ' ' .
Deposit Acc	ount: If the registration fe	ee is to be charged (o a Deposit Account	established in	the Copyright Offic	ce, give name and nu	mber of Accou	mt.
Name		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·			_
Account Nu	mber	•	,			• .	·	•
Certification	* I, the undersigned, here	by certify that I am	the: (Check only one)			•	
	Paythor	Cowner of ea	clusive right(s)		las	•		
٠	other copyright claim	ant 22 duly autho	rized agent of US	CO TECHNON	ogy, Inc. ber convright claims	int, or owner of exclus	ive elebt(e) Å	- .
	of the work identified in	this application and					U ()	-
Typed or pri	inted name V Robert A	. Barr, Worldwi	de Patent Couns	əl	1	Date ▼ 1/	8/123	- .
Handwritten	signature (%)		2					
	16.6	ent !	Sam				•	
						YOUGUST		
Certificate	Harne ▼				•	Complete all necessary a Sign your application in 8	péces Déce F	
				I D			 -	
wiii be mailed in	Susanne S. Moral	es, Paralegai / ł	Fenwick & West.			SERO ALL TECCES	18	U
mailed in window	Susanne S. Moral	es, Paralegai /	Fenwick & West	LL.P		SEDDALL LIFEREN	NOE:	U
mailed in window envelope			Fenwick & West I	LLP		State At Last Forms Of FRESHOR Name 1. Application farm 2. Nonrefundable filing fee money order payable to	NOE:	U
mailed in window	Number/Street/Apt ▼		Fenwick & West I			SISTONIA II FORM GH Carrier 1. Application form 2. Nonwhendable filing fee money croter payable to Copyrighte	in check or Register of	Common and design and a second
mailed in window envelope to this	Number/StreeVApt ▼ 801 California Stre	et .	Fenwick & West.			Shift At Left France (If First Section 1) 1. Application furm 2. Nonwindable filing fee maney order payable to Copyrights	in check or Register of	U

Case 2:03 for 6000 200 972 WB LDFOC Dimentinent File id-01/2 4646 2442 10 to 97 9 30 6 LDF. 52 FORM CA

*17 U.S.C. § 506(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in connection with the application, shell be fined not more than \$2,500.

CaseC2:03-5c1-000270 12 WBID octone on the nt File of -01/22 40 BO 3P 20 4 STON **ø**€1**⊡3**#: 53

REGISTER OF COPYRIGHTS





This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below.The information on this certificate has been made a part of the Copyright Office records.



EFFECTIVE DATE OF REGISTRATION

JUN 1 4 2002

FFICIAL SE	AL	United States of America NE. IF YOU NEED MORE SPACE, USE A SEPARAT	TE CONTINUATION	SHEET.	
		NE. IF TOO NEED MORE OF NOW, OCCUPANT			
	TITLE OF THIS WORK ¥				•,
	Cisco IOS 12.0				· _
	PREVIOUS OR ALTERNATIVE	TITLES V Cisco IOS Release 12.0; Cisco IOS Version 1 Internetwork Operating System Release 12.0;	2.0; Cisco Internetwork Cisco Internetwork Op	COperating System V	m 12.0; Cisco ersion 12.0
	PUBLICATION AS A CONTRII collective work in which the contribut	SUTION If this work was published as a contribution to a price of Collective Work ▼	eriodical, serial, or collec	tion, give informa	tion about the
	If published in a periodical or serial gi	ve: Volume ▼ Number ▼	Issue Date ▼	On Pr	iges ▼
	NAME OF AUTHOR ▼		DATES OF BIR		
) a	Cisco Systems, Inc.	,	Year Born W	Year Died	•
– a	Was this contribution to the work a "work made for hire"?	AUTHOR'S NATIONALITY OR DOMICILE	WAS THIS AUT	THOR'S CONT	RIBUTION TO If the arrower to either of these questions in
	Yes	OR Chitzen of	Алопутоца?	□Yes Er No	"Yes," see detailed
	□ No	Domiciled Inb United States	Pseudonymous?	OYes E No	instructions.
OTE	NATURE OF AUTHORSHIP B New and revised computer	riefly describe nature of material created by this author in wh code and accompanying documentation			<u> </u>
er the law. "author" of york made	NAME OF AUTHOR ▼ See Attached Form TX/CO	N for Additional Authors	DATES OF BIR Year Born ♥	TH AND DEAT Year Died	TH ▼
nire" is SU erally the doyer, not	Was this contribution to the work a "work made for hire"?	AUTHOR'S NATIONALITY OR DOMICILE	WAS THIS AU THE WORK	THOR'S CONT	RIBUTION TO # the entirer to other of these questions is
employee instruc-	☐ Yes	OR Citizen of -	— Anenymous?	☐ Yes ☐ No	"Yes," see detailed
s). For any t of this	□ No	Domiciled in	Pseudonymous?	☐ Yes ☐ No	Instructions.
that was de for hire" ck "Yas" in	NATURE OF AUTHORSHIP	riefly describe nature of material created by this author in wh			
space vided, give employer	NAME OF AUTHOR ▼		DATES OF BIR Year Born ▼	TH AND DEAT Year Died	¥
other C son for					
m the work prepared) Author" of	Was this contribution to the work a "work made for hire"?	AUTHOR'S NATIONALITY OR DOMICILE Name of Country	THE WORK	THOR'S CONT	If the answer to either of these questions is
part, and	□ Y⇔	OR Chizen of	— Anonymous?	DYes DNo	hada miene
re the se for detes inth and	NATURE OF AUTHORSHIP	Domictied in	— Pseudonymous? sich copyright is claimed	□ Yes □ No I. ♥	
ih blank.		OF THIS _ DATE AND NATION OF FIRST P	A TRU TO A TRON OF T	HIS PARTICIE	AP WORK
7 a	YEAR IN WHICH CREATION WORK WAS COMPLETED TO	is information Complete this information Month)	Day		
	1770 4100 11		A POPULOATION	DAL DECEMED	
A	COPYRIGHT CLAIMANT(S) N the author given in space 2. \(\neg{Y}\)	ame and address must be given even if the claimant is the sar		PN RECEIVED	
4	Cisco Technology, Inc.			SIT RECEIVED	
T	170 West Tasman Drive	•		4.2002	
instructions re completing	San Jose, CA 95134		152	SITS RECEIVED	
space.	TDANSEED If the claimantis) name	od here in space 4 is (are) different from the author(s) named is the claimant(s) obtained ownership of the copyright.	n DE FUNDS RE	CEIVED	
	By agreement		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		

Cas	6C2:\$35-5c1-60002799725VBLDF0cDromentn1e	ent F21260-01/22603 0370atg	<u>(4.554 10.67₹ 17agé1128</u>	# : 5	4
		EXAMINED BY	ns'	FC	ORM TX
**		CHECKED BY			•
			•	,	FOR
		CORRESPONDE	NCE		PYRIGHT
		1700		•	USE
					ONLY
· r	OO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE	BPACE, USE A BEPARATE CONTI	NUATION SHEET.		
I ZUOIVAGO	PECISTRATION Has registration for this work, or for an earlier ve	rsion of this work, already been made in t	he Copyright Office?		
Yes D No	If your answer is "Yes." why is another registration being sought? (U	users appropriate near)			.
. 🔲 This is the	first published edition of a work previously registered in unpublished	g totur			V
. 🔲 This is the	first application submitted by this author as copyright claiment. hanged version of the work, as shown by space 6 on this application.				
(m) indissaci	L WAS TOWN Provinces Registration Number D	Year of Registration 3	2002		
l your above	Pending		2002		
DERIVATIV	E WORK OR COMPILATION terrial identify any procedsting work or works that this work is based	on or Incorporates. 🔻		a	C
	by claimant and preexisting third party computer cod				O
nor works	by claimain and preexising and party				inetructions
المراج المراجع	d to This Work. Give a brief, general statement of the material that h	is been added to this work and in which o	pyright is claimed. V	1	re completing space.
New and n	evised computer code and accompanying documentati	ion		D	
Tu T. Tsa	NDENCE Give name and address to which correspondence about 0, Esq.	this application should be sent. Name/	Address/Apt/City/State/ZIP ♥	b	
Fenwick &	k West LLP				
2 Palo Alt					
	, CA 94306 _{Aptima telephone number ▶ (650) 858-7696}	Fax number	(650) 494-1417		
r			, ,	_	
	@fenwick.com				_
CERTIFICA	TACHE I, the telegraphics, lacted, comb and and and	author other copyright claiment			R
	Check only one ► 5 □	owner of exclusive right(s)	lee		U
of the work id	entified in this application and that the statements made application are correct to the best of my knowledge.	authorized agent of Cisco Technology	ogy, ITIC. delmant, or owner of exclusive right(s) A		
•				-	
Typed or priz	sted name and date $f V$ If this application gives a date of publication in	space 3, do not sign and submit it before	that date.		
Robert A	. Barr, Worldwide Patent Counsel	D	ste b	_	
	Mindwytten signature 00				
W,	MARIEN			_	
Х					
Codification			- Complete all necessary species		-0
Certificate will be	Name ▼ Susanne S. Morales, Paralegal / Fenwick & West L	LP	- Sign your application in space 8 SEND ALE 3 ELEMENTS IN THE SAME PACKAGE		J
mailed in window	Number/Street/Apt ▼		1. Application form	GT (1)CENT	order As of
envelope	2 Palo Alto Square		payable to Register of Copyrights 3. Deposit material) 	July 1, 1958,
to this address:	Cay/Sule/ZIP ▼	<u> </u>	MAIL TO		filing fee for
	Palo Alto, CA 94306		Copyright Office 101 Independence Avetue, S.E. Weshington, D.C. 20559-6000		Form T is \$30.
					-

Case(2x93-5x1-6000270972)(VBIDFoc DimentinentF21261-01/22/20303P26)(4:55 (0)

CONTINUATION SHEET FOR APPLICATION FORMS



This Continuation Sheet is used in conjunction with Forms CA, PA, SE, SR, TX, and VA, only. Indicate which basic form you are continuing in the space in the upper right-hand corner. If at all possible, try to fit the information called for into the spaces provided on the basic form.

APAUSEISEGISEUSRISRUTX

If you do not have enough space for all the Information you need to give on the basic form, use

EFFECTIVE DATE OF REGISTRATION

this Continuation Sheet and submit it with the basic form. If you submit this Continuation Sheet, clip (do not tape or staple) it to the basic form and fold the two together before submitting them.

JUN 1 4 2002

Space A of this sheet is intended to identify the basic application. Space B is a continuation of Space 2 on the basic application. Space B is not applicable

CONTINUATION SHEET RECEIVED

Space C (on the reverse side of this sheet) is for the continuation of Spaces 1, 4, or 6 on the basic application or for the continuation of Space 1 on any of the three Short Forms PA, TX, or VA.

			. 40		•
TE A	BOVE THIS LINE. FOR COP	YRIGHT OFFICE USE ONLY			
II. fo	DENTIFICATION OF CONTING SUBmitted for the following TITLE: (Give the title as given Cisco IOS 12.0	NUATION SHEET: This sheet is a continuation of a work: under the heading "Title of this Work" in Space 1 c	of the basic form.)		
		OF COPYRIGHT CLAIMANT(S): (Give the name a sec 2 of any of the Short Forms PA. TX, or VA.) 170 West Tasman Drive, San Jose,	CA 95134		
Ń	AME OF AUTHOR V		DATES OF BIRT	H AND DEAT Year D	H ed ∀
-	(See Space C)		2 Com Donne		:
I _	It - Also consultation to the Wor	AUTHOR'S NATIONALITY OR DOMICILE	WAS THIS AUTI	HOR'S CONTI	UBUTION TO
a	work made for hire"?		THE WORK Anonymous?	🗆 Yes 🗆 No	If the anover to either of these questions is
] Yes] No	OR Citizen of Domiciled in D	Pseudonymous?	□Yes □ No	"Yes," see detailed instructions.
N	IATURE OF AUTHORSHIP	Briefly describe nature of the material created by th	e author in which o	opyright is clair	ned. ▼
- N	NAME OF AUTHOR V		DATES OF BIRT Year Born▼	H AND DEAT Year D	H ied▼
2			WAS THIS AUT	TIOP'S CONT	PIRITIONTO
V	Was this contribution to the work made for hire?	rk AUTHOR'S NATIONALITY OR DOMICILE Name of Country	THE WORK		M Mary annual de Alline
	Yes	OR Citizen of Domiciled in D	Pseudonymous?	□ Yes □ No	"Yes," see detailed Instructions.
-	NATURE OF AUTHORSHIP	Briefly describe nature of the material created by the			
ī	NAME OF AUTHOR ▼		DATES OF BIRTY	TH AND DEAT Year I	TH Died♥
f			WAS THIS AUT	m to Dic CONT	PIRITIONTO
- \ \ *	Was this contribution to the wo a work made for hire ?	TK AUTHOR'S NATIONALITY OR DOMICILE Name of Country	WAS THIS AUT THE WORK Anonymous?	HOKS CON	
	⊒Yes ⊇No	OR Citizen of ▶	•	□ Yes □ No	Type " and detailed
	שצו וייי	<u>-</u>			

NATURE OF AUTHORSHIP Briefly describe nature of the material created by the author in which copyright is claimed. ♥

CONTINUATION OF (Check which):	☐ Space I	☐ Space 4	☐ Space 6			C
Name of Author Adecco Employment Services Avnisoft Corporation HCL Consulting Limited HCL America, Inc. H.L. Yoh Company LLC Aquas Metaplex, Inc. Rapidigm Wipro Limited Lasselle-Ramsay	Work for Hire Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	United States United States United States India United States United States United States United States United States India United States India United States	Anonymous Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Pseudo- nymous No	Nature of Contribution Computer code Computer code	Continuation of other Spaces
Oakhill Publications/ Computer Education Consulting Rick Barron On-Call Consultants, Inc. Judy Melanson	Yes No Yes No	United States United States United States United States	Yes Yes Yes Yes	No No No No	Documentation Documentation Documentation Documentation	V

Certificate
will be
mailed in
window
envelope
to this
address:

Nerne ▼
Susanne S. Morales, Paralegal / Fenwick & West LLP

Number/Street/Apt ▼
2 Palo Alto Square

Chy/Sure/ZIP ▼
Palo Alto, CA 94306

YOU GUST
- Complete all nacessary spaces

SEND ALL 3 ELLINENTS

Application form
 Nonrefundable fee in check or money order payable to Register of Copyrights

3. Deposit Material

EXACIDATO

Litrary of Congress, Copyright Office
101 Independence Avenue, 8.E.

Materials D.C. 20559-6000

D

Face are affective through June 30, 2002. After that date, check the Capyright office Website at www.loc.goodcopyright or cast (202) 707-3000 for convent toe inforcedion.

EXHIBIT F

For current fees, check the (vright Office website at www.copyright.gov, write the Copy-

right Office, or call (202) 707-3000.

For Supplementary Registration
UNITED STATES COPYRIGHT OFFICE

REGISTRATION NUMBER

TX TXU PA PAU VA VAU SR SRU RE EFFECTIVE DATE OF SUPPLEMENTARY REGISTRATION

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET. Title of Werk ♥ Cisco IOS 12.1 Year of Basic Registration V Registration Number of the Basic Registration ▼ 2002 TXu 1-036-066 Name(s) of Copyright Claimant(s) ♥ Name(s) of Author(s) ▼ Cisco Technology, Inc. Please see Space D for list of author names Location and Nature of Incorrect Information in Basic Registration ▼ Name of Author Line Number 2a Line Heading or Description Incorrect Information as It Appears in Basic Registration ▼ Cisco Systems, Inc. Corrected Information ▼ Cisco Systems Sales & Services, Inc. Explanation of Correction ▼ correct name of author Location and Nature of Information in Basic Registration to be Amplified f VLine Heading or Description Name of Author Line Number 2b and C Amplified Information and Explanation of Information ▼ Please add the following to the list of authors: Name of Author: Cisco Technology, Inc. Work for Hire: Yes Domicile: United States Anonymous: No Pseudonymous: No

Nature of Contribution: Computer code and documentation

	C203516			•		•	•		
			•			, FUNDS RECEIVED	DATE		•
•.			•	• •		, I ONDS RECEIVED	DATE	•	
		• •	•					<u> </u>	
						EXAMINED BY			FOR
				* *			·		COPYRIC
	-			.*		CORRESPONDEN	Œ O		OFFIC USE
•		,		•		REFERENCE TO T	HIS DECISTRATIO	N ADDED TO	ONLY
	•					BASIC REGISTRAT	· · · · · · · · · · · · · · · · · ·		· ·
NOT WE	TE ABOVE THE	S LINE. IF YOU	NEED MORE	SPACE, US	E A SEPARA	TE CONTINUATION	SHEET.		
	n of: DPart B				1.				
isco Sys	stems, Inc.		•	F	Pipelink		•		L
BE Staf	fing Services,	inc.			Rapidigm				
decco E	mployment Se	ervices	١.			ources, Inc.	•	• . '	
	fice Personnel	Solutions			Vipro Limite .asselle-Ra				•,
ompute: otelliger	r People		•			irisay ications / Comput	er Education		•
	orporation		•		Consulting		er Education		
	rica, inc.		•	E	ssential So			•	•
	sulting Limited		:	F	Rick Barron		<i>,</i>	•	
& E Co	rporation			•		•	- 1		. •
	anagement Co		bet in		•				
	oldings Pty Ltd					. •			
letaplex,	inc	•	•		• .	•			. •
		•			• .		•	٠.	
résponde	nce: Give name a	nd address to wi	hich correspon	dence about	this application	on should be sent.			
u T. Tsac			- ,		-			•	
enwick &	West LLP	•						•	
01 Califor	mia Street				•	•		• •	
	/lew, CA 94041		T (85/) 938-52	nn	Description	ao@fenwick.co	m ·	
•) 335-769 <u>6</u>							•	
posit Acco	ount: If the regists	ration fee is to be	charged to a	Deposit Acc	runt establishe	d in the Copyright Of	fice, give name and	number of Acco	unt.
me	·				· · · · · · · · · · · · · · · · · · ·		<u> </u>		
count Nun			•				•	•	
			4 11 4	(Cl11.					
rtification	I, the undersign				one)				
	author other copyrigi	Lio htchainnean t Mid	wner of exclu- luly authorize	d agent of	Cisco Tech	nology, Inc.			
		1		. 144	TITLE OF MURROY	or onier cobardin com			
	of the work iden	dified in this appl	ication and the	t the stateme	nts made by m	e in this application an	correct to the best	of my knowledge.	· ·
ped or pri	nted name ▼ Ro	bert A. Barr,	Worldwide	Patent Co	unsel	4.	Date V	8-03	
ndwritten	signature (X) ▼	<u> </u>							4
	(1 am	r 15a	سسسر					
مبسهه		W MAA				-	Y97F (105F)		
	Name ▼			•			Complete all hecess Sim your application	ary spaces In Space F	
rtificate il be siled in		Morales, Par	alegal / Fer	wick & W	est LLP		Complete all necession Sign your application Sign your application Sign Sign Sign Sign Sign Sign Sign Sig	n In Space F	G

*17 U.S.C. § 506(a): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filed in consection with the application, shall be fined not more than \$2,500.

801 California Street

Mountain View, CA 94041

City/State/ZIP ▼

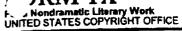
envelope

to this address:

CaseC2x035x1-0000270927VBIDTocomemnentF2led-01/2240803734545076677 CageID3#: 60CERTIFICATE OF REGIST ATION



This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.





EFFECTIVE DATE OF REGISTRATION

JUN 1 4 2002.

REGISTER OF COPYRIGHTS United States of America

OFFICIAL SEAL DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET. TITLE OF THIS WORK V Cisco IOS 12.1 PREVIOUS OR ALTERNATIVE TITLES ▼ Cisco IOS Release 12.1; Cisco IOS Version 12.1; Cisco Internetwork Operating System 12.1; Cisco Internetwork Operating System Release 12.1; Cisco Internetwork Operating System Version 12.1 PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared.

Title of Collective Work

Title of Collec collective work in which the contribution appeared. On Pages ▼ lame Date ▼ Number V If published in a periodical or serial give: Volume V DATES OF BIRTH AND DEATH NAME OF AUTHOR Y Year Died ▼ Year Born V a Cisco Systems, Inc. AUTHOR'S NATIONALITY OR DOMICILE WAS THIS AUTHOR'S CONTRIBUTION TO Was this contribution to the work a ---If the answ THE WORK "work made for hire"? ☐Yes 18 No Anonymous? Citizen of g Yes DYS No United States Pseudonymous? Domictled in □ No NATURE OF AUTHORSHIP Briefly describe nature of material created by this aut New and revised computer code and accompanying documentation erial created by this author in which copyright is claimed. ¥ NOTE DATES OF BIRTH AND DEATH NAME OF AUTHOR V Year Died ▼ Year Born ▼ See Attached Form TX/CON for Additional Authors the "author" of e 'work made for hire' is WAS THIS AUTHOR'S CONTRIBUTION TO AUTHOR'S NATIONALITY OR DOMICILE penerally the employer, not the employee Was this contribution to the work a THE WORK If the and work made for hire? ☐ Yes ☐ No Anonymous? "Yes," see detail (see instruc-tions). For any part of this [] Yes O Yes D No Pseudonymous? Domictled in ∏ No NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. work that was 'made for hire DATES OF BIRTH AND DEATH the space provided, give NAME OF AUTHOR V Year Died Year Born ▼ the employe for other AUTHOR'S NATIONALITY OR DOMICILE person for WAS THIS AUTHOR'S CONTRIBUTION TO whom the work Was this contribution to the work a If the enewer to I THE WORK was prepared) as "Author" of work made for hire"? ☐ Yes ☐ No Citizen of ☐ Yes that part, and □Yes □ No leave the space for dated entriled In Pseudonymous? □ No NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼ of birth and death blank. DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK YEAR IN WHICH CREATION OF THIS Complete this info ONLY If this work WORK WAS COMPLETED This information must be given in all cases. PUCATION RECEIVED COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same as the author given in space 2. ▼ ONE DEPOSIT RECEIVED Cisco Technology, Inc. UN 14,2002 170 West Tasman Drive TWO DEPOSITS RECEIVED San Jose, CA 95134 TRANSFER If the claimant(s) named here in space 4 is (are) different from the author(s) named in FUNDS RECEIVED space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright. By agreement

EXAMINED BY TIMS CHECKED BY DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SMEET. PREVIOUS REGISTRATION has registeration for this work, or for an earlier version of this work, shrowly been made in the Copyright Office? If you a live to responsible deliction of a work of previously registerate being supplicable date. Cif has it a changed version of the work is shown by quast to this supplication the supplication of the properties and the supplication of the properties and the properties and the supplication of the supplication of the properties and the supplication of the supplic	Case2:03:5:1-00027092WBIDocomentnentF2	11211-101/1211:001303FQ	age 61 0 age 64 o e l	13# : 6	31
CHECKED BY CHECKED BY CHECKED BY COPRESPONDENCE Vea COPRESPONDENCE ONLY DO NOT WRITE ABOVE THIS LIME. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET. FIRE VIOUS SECISTRATION Has registeration for this work, or for an earlier version of this work, already learn made in the Copyright Office? If No. The is the produced in the registeration being assigned Check appropriate boat, Y If O is in the first positionised existion of which previously registered in supplications. If I may be the supplication referrance in registeration being assigned Check appropriate boat, Y If I may be the supplication referrance in registeration being assigned Check appropriate boat, Y If I was a changed version of the work, is always by a produced in supplication. Pending DERIVATIVE WORK OR COMPILATION Proceeding Mineral Added to May by pressibility work or works that bids work is based on or incorporates. Y Form works by claimmant and preceding third party computer code Mineral Added to This West. Clive a bids, general seasonest of the mineral date has been added to this work and in which copyright is claimed. Y Mineral Added to This West. Clive a bids, general seasonest of the mineral date has been added to this work and in which copyright is claimed. Y Mineral Added to This West. Clive a bids, general seasonest of the mineral date has been added to this work and in which copyright is claimed. Y Mineral Added to This West. Clive and a accompanying documentation DEPOSIT ACCOUNT If the registration for it to be charged to a Deposit Account established in the Copyright Office, give name and number of Account. Account Number Y CORRESPONDENCE Cive names and subtress to which correspondence about this application should be seat. Number / Address / Apr/Chy/State/TEP D Tano. Eq. (550) 494-1417 Print Tano. Eq. (750) Technology, Inc. Debug Section		EXAMINED BY	พร์	FOF	RM TX
DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SINEET. PREVIOUS REGISTRATION Has registration for this work, or for on entire variation of this work, already been made in the Copyright Office? If you arraws in "I'm," why is another registration being sought? (Ended appropriate bod.) Y If you if the first published edition of sover pervisoring registration being sought? (Ended appropriate bod.) Y If you if you is not first published edition of sover pervisoring registration being sought? (Ended appropriate bod.) Y If you if you arraws in "I'm," why is another registration being sought? (Ended appropriate bod.) Y If you if you is not supplies in continued by this subset on copyright claimant. If you is a changed version of the work, as shown by space to this application. If you arraws in "I'm," why is mother registration Planning. Your of Registration. Your of Reg		·		_	
DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET. PREVIOUS REGISTRATION has registration for the work, or for an earlier variation of this work, alrestly been made in the Copyright Office? If he is the his published edition of a work previously registrated neurophilided form. In this is the his published edition of a work previously registrated neurophilided form. If his is a changed version of the work, as shown by years of to mis application. If his is a changed version of the work is shown by years of to mis application. If you arrows is "Yes," given Previous Registration Neurophy. Profiting DEFINATIVE WORK OR COMPILATION Previously Material Moterial processing who to works that shist work is based on or incorporates. **Y Prior works by claimant and precessing who to works that shist work is based on or incorporates. **Y New and revised computer code and accompanying documentation DEFOCIT ACCOUNT if the registration file is to be charged to a Deposit Account established in the Copyright Office, give many and number of Account. Account Number **Y Account Number **Y To T. Tasan, Esq. Permittic & West LLP 2 Palo Also, CA 94306 CERTIFICATION" L. the undorsigned, hereby certify that I am the Captor of the profit of the statement of the phase-independence about this application should be sent. Name/Address/Apr/Cay/State/IJP ** Distrace Typed on primed mans and date **V II this application and that the subscreens made **Y Typed on primed mans and date **V II this application in one of the copyright claimant. Certificate Subscreen		CORRESPOND	ENCE	-	
DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A REPARATE CONTINUATION SHEET. FREEVIOUS REGISTRATION Has registration for this work, or for an earlier version of this work, already been made in the Copyright Office? Free No. 1 your service 1 "Ce", " why is wrother registration being sample? (Check appropriate box.) Y a. This is to the Part applications industrially byth another a registrated in emphilished form. b. This is to the Part applications in the propriate of the work, as shown by space is on this application. If your service is "is." give: Provious Registration Neumber Pending DERIVATIVE MORK OR COMPILATION Presenting Material Monthly usy promoting work or works that this work is based on or incorporate. Y Prior works by claimant and processing third party computer code Material Added to This Work. Give a brief, general statement of the material that has been added to this work and in which copyright is claimand. Y New and revised computer code and accompanying documentation DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account stabilished in the Copyright Office, give name and number of Account. Name Y CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name / Address/Apr/Chty/State/ZiP Y To I. Taso, Esq. Frem vick & West LLP 2 Palo Also, CA 943006 Four number (650) 858-7696 Four cuber of cities of Cisco Technology, Inc. Name of name and calculation and that the statements made by me in this application are correct to the best of my honorhodge. Typed or priored name and class Y if this application gives a date of publication in space 3, do not steps and number in global. Name of national name of Cisco Technology, Inc. Description Summary		Yes		_	
FREVIOUS REGISTRATION Has registration for this work, a for an earlier version of this work, already been made in the Copyright Client, already been made in the Copyright Client of the work and in the Copyright Client of the work and in the Copyright Client of the work and in which copyright is cliamed. 2 The is the first spikerose submitted by this suchor or copyright clienters. 2 The state of the position of the copyright of the copyright Clienters. 2 Your of Registration Part of Registration Part of the position of the copyright of the work and in which copyright is cliamed. 2 The state of the copyright of the clienters of the spikerose of the copyright				0)NLY
FREVIOUS REGISTRATION Has registration for this work, a for an earlier version of this work, already been made in the Copyright Client, already been made in the Copyright Client of the work and in the Copyright Client of the work and in the Copyright Client of the work and in which copyright is cliamed. 2 The is the first spikerose submitted by this suchor or copyright clienters. 2 The state of the position of the copyright of the copyright Clienters. 2 Your of Registration Part of Registration Part of the position of the copyright of the work and in which copyright is cliamed. 2 The state of the copyright of the clienters of the spikerose of the copyright	ADOVE THIS I ME IF YOU NEED MORE SPACE,	USE A SEPARATE CONT	MUATION SHEET.		الوارار
The I bit of the The I "Yes," why is another registration registration of the control of the con	a mobile work or for an earlier version of	this work, already been made is	the Copyright Office?		5
A CTHE is the Pirts published edition of a work previously registered to improvement in the Copyright California. If the is the Pirts application submored by the suchness or copyright california. If your amove in "I'ct." give reviews Registeration Naumber Pending 2002 Pending Pending 2002	will be if your answer is "Yes." Willy is another registration being account.	oropriate box.) V			
CORRESPONDENCE Cive name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP ▼ To T. T. Tao, Esq. Fermick & West LLP 2 Palo Alto, CA 94306 Area onto and anymen shortware protected to this application and that the sustements made by me in this application and data v if this application and that the sustements made by me in this application and data v if this application gives a date of publication in space 3, do not sign and submat it before the data. Certificates Name v Susanne s. Morales, Paralegal / Fenwick & West LLP Verificates Name v Certificates Name v Susanne s. Morales, Paralegal / Fenwick & West LLP Verificates Name v Certificates Name v Susanne s. Morales, Paralegal / Fenwick & West LLP Verificates Name v Susanne s. Morales, Paralegal / Fenwick & West LLP Verificates Name v Susanne s. Morales, Paralegal / Fenwick & West LLP Verificates Name v Susanne s. Morales, Paralegal / Fenwick & West LLP Verificates Name v Susanne s. Morales, Paralegal / Fenwick & West LLP Verificates Name v Susanne s. Morales, Paralegal / Fenwick & West LLP Susanne s. Morales, Paralegal / Fenwick & West LLP Verificates Name v Susanne s. Morales, Paralegal / Fenwick & West LLP Susanne s. Morales, Paralegal / Fenwick & West LLP Verificates Name v Susanne s. Morales, Paralegal / Fenwick & West LLP Susanne s. Morales, Paralegal / Fenwick & West LLP Susanne s. Morales, Paralegal / Fenwick & West LLP	The test of the first published edition of a work previously registered in unproduction with				
Source answer is "Yes," give Previous Registration Number Pending 2002	In This is the first application submitted by this author as copyright customer.	_			
DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account. Account Number 9 CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name 4 Correspondence address to which correspondence about this application should be sent. Name 4 Correspondence advises adaptive for the undersigned, hereby certify that I am the Check only one by me in this application and this the statements reade by me in this application and other the statements reade by me in this application and date W If this application gives a date of publication in appear 3, do not sign and submit is before that dise. Robert A. Barr, Worldwide Patent Counsel Certificate Will be Susanne S. Morales, Paralegal / Ferwick & West LLP Susanne S. Morales, Paralegal / Ferwick & West LLP Susanne S. Morales, Paralegal / Ferwick & West LLP Certificate Susanne S. Morales, Paralegal / Ferwick & West LLP Susanne S. Morales, Paralegal / Ferwick & West LLP	c. This is a changed version of the work, as shown by space a on uns apparature.	Year of Registration	2002		
Prior works by claimant and preexisting third party computer code Material Added to This Work. Cive a brief, general statement of the material that has been added to this work and in which copyright is claimed. Material Added to This Work. Cive a brief, general statement of the material that has been added to this work and in which copyright is claimed. New and revised computer code and accompanying documentation DEPOSIT ACCOUNT if the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account. Account Number Y To T. Tsao, Esq. Ferrivick & West LLP 2 Palo Alto, CA 94306 Avec code and deprime statements number > (650) 858-7696 Fas number > (650) 494-1417 Email P Itsao@ferrivick.com CERTIFICATION I, the undersigned, hereby certify that I am the Check only one Check o	If your answer is "Yes," give: Previous Registration Petaling		2002		
New and revised computer code and accompanying documentation DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account. Account Number ▼ CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Nume/Address/Apt/Cay/State/ZIP ▼ To T. Tsao, Esq. Fenvice & West LLP 2 Palo Alto Square Palo Alto, CA 94306 Area oosts and desfraint shaphone number \$ (650) 858-7696 Fas number ▶ (650) 494-1417 CERTIFICATION* 1, the undersigned, hereby certify that I am the Check only one of the work identified in this application and that the attements made by me in this application are correct to the best of my knowledge. Typed or printed names and date ▼ If this application gives a date of publication in spece 3 do not stap and submit it before that date. Robert A. Barr, Worldwide Patent Counsel Certificate Will be Susanne S. Morales, Paralegal / Ferrwick & West LLP	Preexisting Material Identify any preexisting work of words and the	corporates. 🔻		a	6
Material Added to This Work. City a brief, general statement of the material that has been added to this work and in which copyright is claimed. DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account. Account Number V CORRESPONDENCE Cive name and address to which correspondence about this application should be sent. Name/Address/Apa/Cky/State/ZJP V Tu T. Tsao, Esq. Fertwick & West LLP 2 Palo Alto Square Palo Alto, CA 94306 Are code and explains telephone number (650) 858-7696 Fea number (650) 494-1417 Check only one (650) 494-1417 Check only one (650) 494-1417 Check only one (650) 494-1417 Typed or printed name and date V If this application and that the statements made by me in this application are correct to the best of my knowledge. Typed or printed name and date V If this application gives a date of publication in space 3, do not sign and submit it before that date. Robert A. Barr, Worldwide Patent Counsel Standivingen signature (0) V X — Worldwide Patent Counsel Standivingen signature (0) V X — Worldwide Patent Counsel Standivingen signature (0) V X — Worldwide Patent Counsel Standivingen signature (0) V Standivingen signature (0) V X — Worldwide Patent Counsel Standivingen signature (0) V Standivingen si	Prior works by claimant and preexisting third party computer code			See t	Instructions
DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account. Account Number V CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/Clay/State/ZIP V Tu T. Taso, Esq. Femvick & West LLP 2 Palo Alto, CA 94306 Area code and anyters stephane number \$ (650) 858-7696 Feat number \$ (650) 494-1417 Email ** Itsao@femwick.com CERTIFICATION** 1, she undersigned, hereby certify that I am the other or other copyright claimant. Owner of eachstve righting in this application and that the statements made by me in this application are correct to the best of my knowledge. Typed or perinted name and date V II this application gives a date of publication in space 3, do not sign and submit it before that date. Robert A. Barr, Worldwide Patent Counsel Certificate X		and to the same of the same of	converient is claimed. V		
DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account established in the Copyright Office, give name and number of Account. Account Number CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/Clay/State/ZIP Defenvick & West LLP 2 Palo Alto, CA 94306 Aves one and depline temphone number } (650) 858-7696 Fast number (650) 494-1417 Email > tissan@fernvick.com CERTIFICATION* 1, the undersigned, hereby certify that I am the Check only one (100) 100 100 100 100 100 100 100 100 100	Material Added to This Work. Give a brief, general statement of the material that has been a	idded to this work and in which	copyright a viscous -	b	
CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP ▼ 1 T. T. Sao, Esq. Ferrwick & West LLP 2 Pake Alto Square Pale Alto, Square P	New and revised computer code and accompanying documents				
CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP ▼ 1 T. T. Sao, Esq. Ferrwick & West LLP 2 Pake Alto Square Pale Alto, Square P					
CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP ▼ 1 T. T. Sao, Esq. Ferrwick & West LLP 2 Pake Alto Square Pale Alto, Square P	•				1 .
CORRESPONDENCE Give name and address to which correspondence about this application should be sent. Name/Address/Apt/City/State/ZIP ▼ 1 T. T. Sao, Esq. Ferrwick & West LLP 2 Pake Alto Square Pale Alto, Square P	A Provide Agreement actual	Sigher in the Copyright Office,	give name and number of Account.		
CORRESPONDENCE Give name and address to which correspondence about this application should be send. Name/Address/Apa/City/State/ZIP ▼ 10 Tu T. Tsao, Esq. Fentwick & West LLP 2 Pabo Alto Square Palo Alto Square Feat number ▶ (650) 858-7696 Feat number ▶ (650) 494-1417 CERTIFICATION* 1, the undersigned, hereby certify that I am the Check only one Check only one Check only one Dother copyright claimant Of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge. Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign, and submit it before that date. Robert A. Barr, Worldwide Patent Counsel Dates No. Marie V X — Marie V Susanne S. Morales, Paralegal / Fenwick & West LLP Susanne S. Morales, Paralegal / Fenwick & West LLP Susanne S. Morales, Paralegal / Fenwick & West LLP Susanne S. Morales, Paralegal / Fenwick & West LLP Susanne S. Morales, Paralegal / Fenwick & West LLP	DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account	Number ▼	·	a	
Tu T. Tsao, Esq. Ferrwick & West LLP 2 Palo Alto Square Palo Alto, CA 94306 Area code and sayima takephone number > (650) 858-7696 Fear number > (650) 494-1417 Fear number > (650) 494	Øthic ▲				
Tu T. Tsao, Esq. Ferrwick & West LLP 2 Palo Alto Square Palo Alto, CA 94306 Area code and sayima takephone number > (650) 858-7696 Fear number > (650) 494-1417 Fear number > (650) 494		limeter should be sent. Nam	e/Address/Apt/City/State/ZIP▼	_h	
Ferrivick & West LLP 2 Palo Alto Square	CORRESPONDENCE Give name and address to which correspondence about this app	MATON PIOLES OF SOME		U	
2 Palo Alto, CA 94306 Page code and dayleme talephone number \$ (650) 858-7696 Email > Itsan@fernwick.com CERTIFICATION* 1, the undersigned, hereby certify that I am the Check only one > Check one > Check only one > Check one > Ch	Tu T. Tsao, Esq.				
Palo Alto, CA 94306 Area code and derytime talephone number > (650) 858-7696 Email > Itsau@fernwick.com CERTIFICATION* 1. the undersigned, hereby certify that I am the Check only one of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge. Typed or printed name and date ▼ If this application gives a date of publication in space 3, do not sign and submit it before that date. Robert A. Barr, Worldwide Patent Counsel Date >	2 Palo Alto Square				
Area code and absylime takephone number > (650) 858-7696 Email > ttsan@fernwick.com CERTIFICATION* I, the undersigned, hereby certify that i am the Check only one Check only one of exclusive right(a) other copyright claimant other	Palo Alto, CA 94306		((60) 404 1417		
CERTIFICATION* 1, the undersigned, hereby certify that I am the Check only one Of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge. Typed or printed name and date \(\Pi\) If this application gives a date of publication in space 3, do not sign and submit it before that date. Robert A. Barr, Worldwide Patent Counsel Date X — Wild A Certificate Will be Name \(\Pi\) Susanne S. Morales, Paralegal / Fenwick & West LLP System S. Morales, Paralegal / Fenwick & West LLP		Fax number (י ודוידער (טכס)		
CERTIFICATION* I, the undersigned, hereby certify that I am the Check only one Check only on					
Check only one Check one Check only one Check one Ch					0
of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge. Typed or printed name and date V If this application gives a date of publication in space 3, do not sign and submit it before that date. Robert A. Barr, Worldwide Patent Counsel Date Vo. Mucl. Complete all recessary spaces Sign your application is space 8	CERTIFICATION I, the undersigned, nereby certify that I aim the				X
Typed or printed name and date V If this application gives a date of publication in space 3, do not sign and submit it before that date. Robert A. Barr, Worldwide Patent Counsel Date X — Wandwritten signature (0) V X — Wandwritten signature (0) V Certificate Will be Name V Susanne S. Morales, Paralegal / Fenwick & West LLP	Owner	of exclusive right(s)	alam Inc		U
Typed or printed name and date V If this application gives a date of publication in space 3, do not sign and subrait it before that date. Robert A. Barr, Worldwide Patent Counsel Date X — Worldwide Patent Counsel Date Vol. Mucl. - Complete all necessary spaces - Sign your application will be Name V Susanne S. Morales, Paralegal / Fenwick & West LLP	of the work identified in this application and that the statements made	rized agent of CISCO 1 CCIM	CHURTY, 21st.		
Robert A. Barr, Worldwide Patent Counsel Control Control Control	by me in this application are correct to the best of my knownedge.				
Robert A. Barr, Worldwide Patent Counsel Control Control Control	Typed or printed name and date V If this application gives a date of publication in space.	3, do not sign and submit it bef	ore that date.		
Certificate will be Name Susanne S. Morales, Paralegal / Fenwick & West LLP Susanne S. Morales, Paralegal / Fenwick & West LLP					
Certificate will be Name V Susanne S. Morales, Paralegal / Fenwick & West LLP Susanne S. Morales, Paralegal / Fenwick & West LLP Susanne S. Morales of Paralegal / Susanne S. Morales of Paralegal / Fenwick & West LLP					
Certificate Will be Name V Susanne S. Morales, Paralegal / Fenwick & West LLP - Complete all necessary spaces - Sign your application in spaces	X-Hall				
Certificate Will be Name V Susanne S. Morales, Paralegal / Fenwick & West LLP - Complete all necessary spaces - Sign your application in spaces	<u></u>				
Certificate will be Name Susanne S. Morales, Paralegal / Fenwick & West LLP Susanne S. Morales, Paralegal / Fenwick & West LLP			- Cornolete all necessary space		
	Certificate Name V C. Manufac Paralaged / Fennyick & West IIP		Sign your application in space		
			IN THE SAME PACKAGE		~

window envelope to this

address:

Number/Street/Apt Y

2 Palo Alto Square City/State/ZIP ♥

CONTINUATION SHEET FOR APPLICATION FORMS

- This Continuation Sheet is used in conjunction with Forms CA, PA, SE, SR, TX, and VA, only. Indicate which basic form you are continuing in the space in the upper right-hand corner.
- If at all possible, try to fit the information called for into the spaces provided on the basic form.
- If you do not have enough space for all the information you need to give on the basic form, use this Continuation Sheet and submit it with the basic form.
- If you submit this Continuation Sheet, clip (do not tape or staple) it to the basic form and fold the two together before submitting them.
- Space A of this sheet is intended to identify the basic application. Space B is a continuation of Space 2 on the basic application. Space B is not applicable

Space C (on the reverse side of this sheet) is for the continuation of Spaces 1, 4, or 6 on the basic application or for the continuation of Space 1 on any of the three Short Forms PA, TX, or VA.

TX /CON **EFORM** UNITED STATES COPYRIGHT OFFICE TXu 1-036-066 PAPAUSESEGSEUSESRUTXTXUWAVAU EFFECTIVE DATE OF REGISTRATION JUN 1 4 2002

(Dey) (Month) CONTINUATION SHEET RECEIVED JUN 1 4 2002

TE ABOVE THIS LINE. FOR COPYRIGHT OFFICE USE ONLY D

o TITLE: (Give the title as gives Cisco IOS 12.1 NAME(S) AND ADDRESS(E)	INUATION SHEET: This sheet is a continuation of the	f the basic form.) and address of at leas		
NAME OF AUTHOR ▼ (See Space C)		DATES OF BIRT	H AND DEAT Year Di	H led♥
` -				murra (N) T(
Was this contribution to the wo a "work made for hire"?	OTR AUTHOR'S NATIONALITY OR DOMICILE Name of Country	WAS THIS AUTI THE WORK Anonymous?	17 V 17 Ma	If the enemer to t
☐ Yes ☐ No	OR Citizen of ▶	Pseudonymous?	□ Yes □ No	"Yas," see detail instructions.
	Briefly describe nature of the material created by th			med.▼
NAME OF AUTHOR ♥		DATES OF BIRT Year Born♥	TH AND DEAT Year D	med.▼ [H Ned▼
NAME OF AUTHOR ♥	ock AUTHOR'S NATIONALITY OR DOMICILE	DATES OF BIRT Year Born V WAS THIS AUT THE WORK	TH AND DEAT Year D	med. ▼ TH Med▼ RIBUTION T
NAME OF AUTHOR ♥ Was this contribution to the w a"work made for hire"? □ Yes	ork AUTHOR'S NATIONALITY OR DOMICILE Name of County OR Citizen of	DATES OF BIRT Year Born WAS THIS AUT THE WORK Anonymous? Pseudonymous?	TH AND DBAT Year D THOR'S CONT	RIBUTION To of these questions.
NAME OF AUTHOR ♥ Was this contribution to the w a"work made for hire"? □ Yes	ock AUTHOR'S NATIONALITY OR DOMICILE	DATES OF BIRT Year Born WAS THIS AUT THE WORK Anonymous? Pseudonymous?	TH AND DBAT Year D THOR'S CONT	RIBUTION To of these questions.
NAME OF AUTHOR ♥ Was this contribution to the w a"work made for hire"? □ Yes	ork AUTHOR'S NATIONALITY OR DOMICILE Name of County OR Citizen of	DATES OF BIRT Year Born WAS THIS AUT THE WORK Anonymous? Pseudonymous?	TH AND DEAT Year D THOR'S CONT D Yes D No Copyright is clair	RIBUTION T
Was this contribution to the was work made for hire? □ Yes □ No NATURE OF AUTHORSHIP	OR Citizen of Domicile Domicile Domicile Or Domicile Or Domiciled in Domiciled in Domiciled by the Briefly describe nature of the material created by the Domicile Domicile Domicile Or Do	DATES OF BIRT Year Born WAS THIS AUT THE WORK Anonymous? Pseudonymous? he author in which of DATES OF BIR Year Born	TH AND DBAT Year D THOR'S CONT D Yes D No Copyright is claim TH AND DBAT Year I	RIBUTION T Of these quantity of the
Was this contribution to the was work made for hire? □ Yes □ No NATURE OF AUTHORSHIP	ork AUTHOR'S NATIONALITY OR DOMICILE Name of County OR Citizen of	DATES OF BIRT Year Born WAS THIS AUT THE WORK Anonymous? Pseudonymous? he author in which of DATES OF BIR Year Born WAS THIS AUT THE WORK Anonymous?	TH AND DEAT Year D THOR'S CONT THOR'S CONT TH AND DEAT Year I THOR'S CONT THOR'S CONT	RIBUTION TO STATE OF THE CONTROL THE CONTR

				1		
Check which):	☐ Space 1	☐ Space 4	□ Space 6	Space 2t		C
CONTINUATION OF (Check which): Name of Author ABE Staffing Services, Inc. Adecco Employment Services A.S.K. Office Personnel Solutions Computer People Cotelligent Devsoft Corporation HCL America, Inc. HCL Consulting Limited	Work for Hire Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	United States United States Australia United States United States United States United States United States India United States	Anonymous Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Pseudo- nymous No	Nature of Contribution Computer code	Continuation of other Speces
IT & E Corporation Ma Foi Management Consultants Limited Maprik Holdings Pty Ltd Metaplex, Inc. Pipelink Rapidigm Softsol Resources, Inc. Wipro Limited	Yes Yes Yes Yes Yes Yes Yes	India Australia United States United States United States United States India United States United States United States United States	Yes Yes Yes Yes Yes Yes Yes	No No No No No	Computer code Computer code Computer code Computer code Computer code Computer code	
Lasselle-Ramsay Oakhill Publications/ Computer Education Consulting Essential Solutions Rick Barron	Yes Yes Yes No	United States United States United States	Yes Yes Yes	No No No	Documentation Documentation Documentation	

mailed in window envelope to this	Number/Street/Apt ▼ 2 Palo Alto Square	Complete all recessary spaces of complete all recessary spaces on SEND ALUS ELECTION SEND ALUS ELECTION AND ALUS ELECTION ALUS ELECTION AND ALUS ELECTION ALUS ELECTION ALUS ELECTION ALUS ELECT
address:	Palo Alto, CA 94306	Library of Congress, Copyright C 101 Independence Avenue, E.E. Washington, D.C. 20659-8009

EXHIBIT G

Copyright office less of a state of the copyright of the

For current fees, check the __yright Office website at www.copyright.gov, write the Copyright Office, or call (202) 707-3000.

For Supplementary Registration UNITED STATES COPYRIGHT OFFICE

REGISTRATION NUMBER

TX TXU PA: PAU VA VAU SR SRU RE EFFECTIVE DATE OF SUPPLEMENTARY REGISTRATION

DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET. Title of Work ▼ Cisco IOS 12.2 Registration Number of the Basic Registration ▼ Year of Basic Registration ▼ 2002 TXu 1-036-065 Name(s) of Copyright Claimant(s) ▼ Name(s) of Author(s) ▼ Claco Technology, Inc. Please see Space D for list of name of authors Location and Nature of Incorrect Information in Basic Registration V Name of Author Line Number 2a Line Heading or Description Incorrect Information as It Appears in Basic Registration ▼ Cisco Systems, Inc. Corrected Information ▼ Cisco Systems Sales & Services, inc. Explanation of Correction ▼ correct name of author Location and Nature of Information in Basic Registration to be Amplified f VLine Heading or Description Name of Author Line Number 2b and C Amplified Information and Explanation of Information ♥ Please add the following to the list of author names: Name of Author: Cisco Technology, Inc. Work for Hire: Yes **Domicile: United States** Anonymous: No Pseudonymous: No Nature of Contribution: Computer code and documentation

		L/PRANCE TRANSPORTED OF REPORTS	mge carge mo.	CO PORMIC
	٠.			*
		FUNDS RECEIVED DATE		- , .,
	· (•
		EXAMINED BY		FOR
				COPYRIG
	· · · · ·	CORRESPONDENCE C	•	OFFICE USE
		REFERENCE TO THIS RE	CICTRATION APPER TO	ONLY
	,	BASIC REGISTRATION	OYES ONO	, :
		DADIO NEGIOTIANION	ONE BATE	-
NOT WRITE ABOVE THIS LINE. IF YOU NEED MOF	RE SPACE, USE A SEPARA	TE CONTINUATION SHEET	programme to the second	•
ontinuation of: DPart B or DPart C Part A				
number of the by the terms of t	•	•		
less Systems Inc	Me Foi Mene	gement Consultants Lim	itad	
sco Systems, Inc. BE Staffing Services, Inc.	Metalogic, S.		iteo	
decco Employment Services	Metaplex, Inc		•	
	Rapidigm	•		
cionyx, incorporated		Consultants	.:	• •
ireenwood Group, dba Manpower				. •
Technical Services	Ultimate Tech			3
CL America, Inc.	Wipro Limited			
CL Consulting Limited	Lasselle-Ram			•
L. Yoh Company LLC		ations / Computer Educ	ation Consulting	:
ughes Software Systems USA	Rick Barron			
foSys Technologies Limited			•	
sight Solutions, Inc.	•	•	•	
& E Corporation				
	•			
	<u> </u>	• •		
respondence: Give name and address to which corresp	ondence about this applicat	on should be sent.		
u T. Tsao, Esq.		•	•	
enwick & West LLP		·•		
01 California Street		1		,
lountain View, CA 94041			•	
one (650) 335-7696 Fax (6	50) 938-5200	Rmail ttsac Of	nwick.com	
· · · · · · · · · · · · · · · · · · ·	. Demosit Account autablish	ed in the Comprisht Office six	n name and number of A	renemb
to a control of the second sec	P Debrait Victorial ascropmen	en ne me cohangin cance fre	A THUME WHITH THE STREET OF VI	·
-	•			
posit Account: If the registration fee is to be charged to me				 .

Depo Name Accor Certit other copyright claimant

If duly authorized agent of Cisco Technology, Inc.

Name of author or other copyright claimant, or owner of exclusive right(s) of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge. Typed or printed name Y Robert A. Barr, Worldwide Patent Counsel

Handwritten signature (X) ▼

will be mailed in window envelope to this address:

Certificate

Susanne S. Morales, Paralegal / Fenwick & West LLP Number/Street/Apt V 801 California Street City/State/ZIP ▼

"17 U.S.C. § 508(e): Any person who knowingly makes a false representation of a material fact in the application for copyright registration provided for by section 409, or in any written statement filled in connection with the application, shall be fined not more than \$2,500.

Rev. June 2002-20,000 Web Rev. June 2002 @ Printed on recycled paper

Mountain View, CA 94041

U.S. Government Printing Office: 2000-461-113/20,021

CaseC2:03-5c1-000270929VBID octomentnentFileti-01/2140303Patre 67 Patrick FICATE OF REGISTRATION Kagé⊞#:

CERTIFICATE OF REGIST





This Certificate issued under the seal of the Copyright Office in accordance with title 17, United States Code, attests that registration has been made for the work identified below. The information on this certificate has been made a part of the Copyright Office records.



EFFECTIVE DATE OF REGISTRATION

UNITED STATES COPYRIGHT OFFICE

For a Nondramatic Litera

JUN 1 4 2002

LIBRARY OF COT REGISTER OF COPYRIGHTS United States of America OFFICIAL SEAL DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE, USE A SEPARATE CONTINUATION SHEET. TITLE OF THIS WORK ▼ **Cisco 1OS 12.2** PREVIOUS OR ALTERNATIVE TITLES ▼ Cisco IOS Release 12.2; Cisco IOS Version 12.2; Cisco Intersectwork Operating System 12.2; Cisco Internetwork Operating System Release 12.2; Cisco Internetwork Operating System Version 12.2 PUBLICATION AS A CONTRIBUTION If this work was published as a contribution to a periodical, serial, or collection, give information about the collective work in which the contribution appeared.

Title of Collective Work

Title of Collec collective work in which the contribution appeared. On Pages ♥ Issue Date V Number **T** If published in a periodical or serial give: Volume V DATES OF BIRTH AND DEATH Year Died ▼ NAME OF AUTHOR V Year Born 7 a Cisco Systems, Inc. WAS THIS AUTHOR'S CONTRIBUTION TO AUTHOR'S NATIONALITY OR DOMICILE Was this contribution to the work a THE WORK ☐Yes ☑ No work made for hire? Anonymous? Chizen of e Yes DYES E No Pseudonymous? United States Domidled in NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. ▼ New and revised computer code and accompanying documentation NOTE DATES OF BIRTH AND DEATH Year Died 🔻 NAME OF AUTHOR ▼ Year Born ▼ Under the law. the "author" of See Attached Form TX/CON for Additional Authors s "work made for hirs" is WAS THIS AUTHOR'S CONTRIBUTION TO AUTHOR'S NATIONALITY OR DOMICILE penerally the Was this contribution to the work a THE WORK emplayer, not the employee (see instrucwork made for hire"? □Yes □ No ☐ Yes □Yes □ No Pseudonymous? tions). For any part of this Domiciled in NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. work that was "made for hire" shock "Yes" in DATES OF BIRTH AND DEATH the space provided, give Year Died ▼ NAME OF AUTHOR V Year Born ▼ (or other AUTHOR'S NATIONALITY OR DOMICILE WAS THIS AUTHOR'S CONTRIBUTION TO rson for whom the work was prapared) as "Author" of Was this contribution to the work a THE WORK Tyes I No Yes. work made for hire? Citizen of O Yes ☐ Yes ☐ No that part, and Pseudonymous? Domiciled in leave the space for date NATURE OF AUTHORSHIP Briefly describe nature of material created by this author in which copyright is claimed. of birth and death blank DATE AND NATION OF FIRST PUBLICATION OF THIS PARTICULAR WORK YEAR IN WHICH CREATION OF THIS Complete this inform Coll Y if this work has been WORK WAS COMPLETED This beforeveile given to given in all cases. a APPLICATION RECEIVED COPYRIGHT CLAIMANT(S) Name and address must be given even if the claimant is the same at ONE DEPOSIT RECEIVED the author given in space 2. ▼ Cisco Technology, Inc. JUN 14, 2002 170 West Tasman Drive TWO DEPOSITS RECEIVED San Jose, CA 95134 TRANSFER if the claimant(s) named here in space 4 is (are) different from the author(s) named in space 2, give a brief statement of how the claimant(s) obtained ownership of the copyright. 778 COTT FUNDS RECEIVED

By agreement

	EXAMINED BY TMS	FC	RM TX
	CHECKED BY		
	CORRESPONDENCE	co	FOR PYRIGHT
	Yes		OFFICE USE ONLY
	AND		
DO NOT WRITE ABOVE THIS LINE. IF YOU NEED MORE SPACE,	USE A SEPARATE CONTINUATION SHEET.		
REVIOUS REGISTRATION Has registration for this work, or for an earlier version of it. Yes No If your answer is "Yes." why is another registration being sought? (Check appr	rupriate box.) ▼		5
This is the first published edition of a work previously registered in unputationed to the			
This is the first application submitted by this author as copyright communi.		1	
IP! This is a changed version of the work, as shown by space 6 on this appearation.	Year of Registration ▶		
your answer is "Yes." give: Previous Registration Number > Pending	2002	<u>'</u>	
ERIVATIVE WORK OR COMPILATION	orporates. ▼	a	C
DERIVATIVE WORK OR COMPILATION reexisting Material Identify any preexisting work or works that this work is based on an incorporates.			U
rior works by claimant and preexisting third party computer code			instructions
•			
DEPOSIT ACCOUNT If the registration fee is to be charged to a Deposit Account establishme Account	ished in the Copyright Office, give name and number of Ac Number Ψ	oount. a	7
Name ▼			7
CORRESPONDENCE Give name and address to which correspondence about this appli			7
CORRESPONDENCE Give name and address to which correspondence about this applied Tu T. Tsao, Esq. Fenwick & West LLP			7
CORRESPONDENCE Give name and address to which correspondence about this applied Tu. T. Tsao, Esq. Fenwick & West LLP 2 Palo Alto Square			7
CORRESPONDENCE Give name and address to which correspondence about this applied Tu T. Tsao, Esq. Fenwick & West LLP 2 Palo Alto Square Palo Alto, CA 94306			7
CORRESPONDENCE Give name and address to which correspondence about this applied Tu T. Tsao, Esq. Fenwick & West LLP 2 Palo Alto Square Palo Alto, CA 94306 Geo code and daytime talephone number > (650) 858-7696	cetion should be sent. Name/Address/Apt/City/State/		7
CORRESPONDENCE Give name and address to which correspondence about this applit Tu T. Tsao, Esq. Fenwick & West LLP 2 Palo Alto Square Palo Alto, CA 94306 Itsao@fenwick.com	cetion should be sent. Name/Address/Apt/City/State/		7
CORRESPONDENCE Give name and address to which correspondence about this applit Tu T. Tsao, Esq. Fenwick & West LLP 2 Palo Alto Square Palo Alto, CA 94306 Itsao@fenwick.com CERTIFICATION* Lithe undersigned, hereby certify that I am the	restion should be sent. Name/Address/Apt/City/State/ Fax number ▶ (650) 494–1417 pyrtight claiment		7 8
CORRESPONDENCE Give name and address to which correspondence about this applit Tu T. Tsao, Esq. Fenwick & West LLP 2 Palo Alto, Square Palo Alto, CA 94306 Itsao@fenwick.com CERTIFICATION* L the undersigned, hereby certify that I am the Check only one Check only one authorized in this application and that the statements made	ication should be sent. Name/Address/Apt/City/State/	b	7 8
CORRESPONDENCE Give name and address to which correspondence about this application and that the statements made of authorize to the best of my knowledge.	Fax number > (650) 494-1417 pyright claiment of exclusive right(s) Cisco Technology, Inc.	b	7 8
CORRESPONDENCE Give name and address to which correspondence about this applit Tu T. Tsao, Esq. Fenwick & West LLP 2 Palo Alto Square Palo Alto, CA 94306 Itsao@fenwick.com CERTIFICATION* L the undersigned, hereby certify that I am the Check only one Of the work identified in this application and that the statements made by me in this application are correct to the best of my knowledge. Typed or pristed name and date V If this application gives a date of publication in space 3,	Fax number > (650) 494-1417 pyright claiment of exclusive right(s) Cisco Technology, Inc.	b	7
CORRESPONDENCE Give name and address to which correspondence about this applied Tu T. Tsao, Esq. Fenwick & West LLP 2 Palo Alto Square Palo Alto, CA 94306 Aree code and daytime integration number > (650) 858-7696 Email > ttsao@fenwick.com CERTIFICATION* Lithe undersigned, hereby certify that I am the Check only one	Fax rumber > (650) 494-1417 Propright claiment of Cisco Technology, Inc. Name of eather or other copyright claiment, or some of eachaber, do not sign and submit it before that date.	b	7

Certificate	
will be	
malied in	1
window	
envelope	
to this	

address:

Name ▼ Susanne S. Morales, Paralegal / Fenwick & West LLp Number/Street/Apt ¥ 2 Palo Alto Square City/State/21P ▼ Palo Alto, CA 94306

CONTINUATION SHEET FOR APPLICATION FORMS

- This Continuation Sheet is used in conjunction with Forms CA, PA, SE, SR, TX, and VA, only.
 Indicate which basic form you are continuing in the space in the upper right-hand corner.
- If at all possible, try to fit the information called for into the spaces provided on the basic form.
- If you do not have enough space for all the information you need to give on the basic form, use
 this Continuation Sheet and submit it with the basic form.
- If you submit this Continuation Sheet, clip (do not tape or staple) it to the basic form and fold the
 two together before submitting them.
- Space A of this sheet is intended to identify the basic application.
 Space B is a continuation of Space 2 on the basic application. Space B is not applicable

Space C (on the reverse side of this sheet) is for the continuation of Spaces 1, 4, or 6 on the basic application or for the continuation of Space 1 on any of the three Short Forms PA, TX, or VA.

FORM TX /CON
TXu 1-036-065
PAPAU SE SEG SEU SR SRYTATXUVA VAU
JUN 1 4 2002.
CONTINUATION SHEET RECEIVED RUN 1 4 2002

DO NOT WRITE ABOVE THIS LINE. FOR COPYRIGHT OFFICE USE ONLY

DO NOT WATE	7.0012					
Identification of Application	form submitted for the following TITLE: (Give the title as given Cisco IOS 12.2 NAME(S) AND ADDRESS(ES)	NUATION SHRET: This sheet is a continuation of a work: work: under the heading "Title of this Work" in Space 1 of OF COPYRIGHT CLAIMANT(S): (Give the name a ace 2 of any of the Short Forms PA. TX, or VA.) ., 170 West Tasman Drive, San Jose,	f the basic form.) and address of at lea			
	NAME OF AUTHOR *	•	DATES OF BIRT	H AND DEATI Year Di		
đ	(See Space C)		168L BOLLLA	169 01		
u	Was this contribution to the worl	AUTHOR'S NATIONALITY OR DOMICILE	WAS THIS AUT	HOR'S CONTR	EIBUTION TO	
В	a'work made for hire?	Name of Courty	THE WORK Anonymous?	□ Yes □ No	If the enguer to either of these manifests in	
Continuation	□ Yes	OR Citizen of Domiciled in D	Pseudonymous?	□ Yes □ No	"Yes," oce detailed	
of Space 2	□ No					
	NATURE OF AUTHORSHIP B	riefly describe nature of the material created by th		opyr ag in is com.		
	NAME OF AUTHOR V		DATES OF BIRT	TH AND DEAT Year Di		
A					<u> </u>	
	Was this contribution to the wor	AUTHOR'S NATIONALITY OR DOMICILE	WAS THIS AUT	HOR'S CONTI	STRUTION TO	
•	a work made for hire?			□ Yes □ No	If the around to either of those questions is	
	□ Yes □ No	OR Citizen of Domiciled in	Pseudorrymous?	□ Yes □ No	"Yes," our detailed instructions.	
	NATURE OF AUTHORSHIP Briefly describe nature of the material created by the author in which copyright is claimed. ▼					
	NAME OF AUTHOR ▼		DATES OF BIR' Year Born♥	TH AND DEAT Year D		
1	F					
	Was this contribution to the wor	R AUTHOR'S NATIONALITY OR DOMICILE	WAS THIS AUT			
	a'work made for hire'?	Colored b	Anonymous?	□ Yes □ No	of those questions is	
	☐ Yes ☐ No	OR Citizen of Domiciled in	Pseudonymous?	☐ Yes ☐ No	"Yes," see detailed instructions.	
	THE OF A PRIODCIME	iriefly describe nature of the material created by th	e author in which	copyright is class	med. ▼	

CONTINUATION OF (Check which):	☐ Space 1	☐ Space 4	☐ Space 6	J Space 2		
Name of	Work for	Domicile	Anonymous	Pseudo- pymous	Nature of Contribution	Continuation
Author	Hire		37	No	Computer code and	of other
ABE Staffing Services, Inc.	Yes	United States	Yes	140	documentation	Spaces
Adecco Employment Services	Yes	United States	Yes	No	Computer code and documentation	.,
•		United States	Yes	No	Computer code	
Acionyx, Incorporated Greenwood Group, dba	Yes Yes	United States	Yes	No	Computer code and documentation	
Manpower Technical Services		United States	Yes	No	Computer code	
HCL America, Inc.	Yes	United States	Yes	No	Computer code	
HCL Consulting Limited	Yes	United States	Yes	No	Computer code	
H.L. Yoh Company LLC	Yes Yes	United States	Yes	No	Computer code	4
Hughes Software Systems USA	yes	United States	Yes	No	Computer code	
InfoSys Technologies Limited	Yes	United States	Yes	No	Computer code	
Insight Solutions, Inc. IT & E Corporation	Yes	United States	Yes	No	Computer code	
Ma Foi Management	97	United States	Yes	No	Computer code	
Consultants Limited	Yes Yes	United States	Yes	No	Computer code	
Metalogic, S.A.R.L.	Yes Yes	United States	Yes	No	Computer code	
Metaplex, Inc.	Yes	United States	Yes	No	Computer code	
Rapidigna	Yes	United States	Yes	No	Computer code	
Savvy System Consultants	Yes	United States	Yes	No	Computer code	
Ultimate Technology, Inc.	Yes	United States	Yes	No	Computer code	
Wipro Limited	Yes	United States	Yes	No	Documentation	
Lasselle-Ramsay Oakhill Publications/					Documentation	
Computer Education Consulting	Yes .	United States	Yes	No	Documentation	
Rick Barron	No	United States	Yes	No	PAGRITICINALIVA:	4

Certificate will be	Name ▼ Susanne S. Morales, Paralegal / Fenwick & West LLP	3	D Property Company
address:	Namber/Street/Act ♥ 2 Palo Alto Square Chy/State/ZP ♥ Palo Alto, CA 94306	Alcorredundable fee in check or money order psychie in Register of Copyrights Deposit Meterial	3002 jápar that data, check the Copyright affice Website of www.loc.gover.com/ right or call (202) 767-2006 for surrent

Cisco/Huawei

Exhibit H: Manual Comparison

Huawei "ip address" Command (1 of 2)

Cisco "ip address" Command (1 of 2)

User Manual - Command Reference (Volume 1)

× *

Versatile Routing Platform

Chapter 1

ip address

IP Address Configuration Commands

1.1.1 ip address

To set a primary or secondary IP address for an interface, use the ip address command. To remove an IP address or disable IP processing, use the no form of this command

ip address ip-address mask [secondary]

no ip address [ip-address]

Syntax Description

ip-address IP address.

f there is no ip-address in the command no ip address, delete all the ip-address of the net-mask mask for the associated IP subnet. It is all in decimal format divided by dots. nterface. secondary specifies that the configured address is a secondary IP address. If this keyword is omitted, the configured address is the primary IP address.

Default

No IP address is defined for the interface

Huawei Command Reference, Version 1.5, Volume 1, Module 04, pp. 1-1 to 1-2

http://datacomm.huawei.com/english/index.html

[Select "Document Center" link; then select "VRP Command and Configuration Manual" link; then select "Command ReferenceV1.5"; then select "Command Reference(V1.5)-Volume 1" link.]

ip address

To set a primary or secondary IP address for an interface, use the ip address interface configuration command. To remove an IP address or disable IP processing, use the no form of this command.

no ip address ip-address mask [secondary] ip address ip-address mask [secondary]

Syntax Description

IP address. ip-address Mask for the associated IP subnet. mask Optional) Specifies that the configured address is a secondary IP address. secondary

f this keyword is omitted, the configured address is the primary IP address.

Default

No IP address is defined for the interface.

Cisco Network Protocols Command Reference, Part 1, Version 11.2, IP Commands, pp. V-57 to V-58

http://www.cisco.com/en/US/products/sw/iosswrel/ps1824/products_command_reference_ chapter09186a0080080d98.html

Select "ip address" link or select PDF file for entire document and go to cited pages]

Huawei "ip address" Command (2 of 2)

Chapter 1

IP Address Configuration Commands

User Manual - Command Reference (Volume 1)

Versatile Routing Platform

×

* *

Command Mode

Interface configuration mode

Usage Guideline

Packets generated by the software always use the primary IP address. Therefore, all routers and access servers on a segment should share the same primary network An interface can have one primary IP address and multiple secondary IP addresses. number. Hosts can determine subnet masks using the Internet Control Message Protocol (ICMP) Mask Request message. Routers respond to this request with an ICMP Mask Reply

the no ip address command. If the software detects another host using one of its IP You can disable IP processing on a particular interface by removing its IP address with addresses, it will print an error message on the console.

The optional keyword secondary allows you to specify an unlimited number of except the system never generates datagrams other than routing updates with secondary addresses. Secondary addresses are treated like primary addresses, secondary source addresses. IP broadcasts and ARP requests are handled property, as are interface routes in the IP routing table.

Huawei Command Reference, Version 1.5, Volume 1, Module 04, pp. 1-1 to 1-2

http://datacomm.huawei.com/english/index.html

Select "Document Center" link; then select "VRP Command and Configuration Manual" link; then select "Command ReferenceV1.5"; then select "Command Reference(V1.5)-Volume 1" link.]

Cisco "ip address" Command (2 of 2)

* × * *

ip address

Command Mode

Interface configuration

Usage Guidelines

This command first appeared in Cisco IOS Release 10.0.

generated by the Cisco IOS software always use the primary IP address. Therefore, all routers and An interface can have one primary IP address and multiple secondary IP addresses. Packets access servers on a segment should share the same primary network number.

Hosts can determine subnet masks using the Internet Control Message Protocol (ICMP) Mask Request message. Routers respond to this request with an ICMP Mask Reply message.

no ip address command. If the software detects another host using one of its IP addresses, it will You can disable IP processing on a particular interface by removing its IP address with the print an error message on the console.

generates datagrams other than routing updates with secondary source addresses. IP broadcasts and addresses. Secondary addresses are treated like primary addresses, except the system never The optional keyword secondary allows you to specify an unlimited number of secondary ARP requests are handled properly, as are interface routes in the IP routing table. Secondary IP addresses can be used in a variety of situations. The following are the most common applications:

- subnetting allows up to 254 hosts per logical subnet, but on one physical subnet you need to have 300 host addresses. Using secondary IP addresses on the routers or access servers allows you to There may not be enough host addresses for a particular network segment. For example, your have two logical subnets using one physical subnet.
- Many older networks were built using Level 2 bridges. The judicious use of secondary addresses can aid in the transition to a subnetted, router-based network. Routers on an older, bridged segment can be easily made aware that there are many subnets on that segment.

Cisco Network Protocols Command Reference, Part 1, Version 11.2, IP Commands, pp. V-57 to V-58

http://www.cisco.com/en/US/products/sw/iosswrel/ps1824/products_command_reference_ chapter09186a0080080d98.html

[Select "ip address" link or select PDF file for entire document and go to cited pages]

Huawei "ip unnumbered" Command (1 of 2)

User Manual - Command Reference (Volume 1) Versatile Routing Platform *

* *

*

Chapter 1

IP Address Configuration Commands

ip unnumbered

1.1.4 ip unnumbered

To enable IP processing on a serial interface without assigning an explicit IP address to the interface, use the ip unnumbered command. To disable the IP processing on the interface, use the no form of this command.

ip unnumbered interface-type interface-number

no ip unnumbered

Syntax Description

interface-type type of another interface on which the router has an assigned IP address. interface-number number of another interface on which the router has an assigned IP address.

Default

Disabled

Command Mode

Interface configuration mode

Huawei Command Reference, Version 1.5, Volume 1, Module 04, pp. 1-3 to 1-4

http://datacomm.huawei.com/english/index.html

[Select "Document Center" link; then select "VRP Command and Configuration Manual" link; then select "Command Reference(V1.5)-Volume 1" link.]

Cisco "ip unnumbered" Command (1 of 2)

ip unnumbered

To enable IP processing on a serial interface without assigning an explicit IP address to the interface, use the ip unnumbered interface configuration command. To disable the IP processing on the interface, use the no form of this command.

no ip unnumbered type number ip unnumbered type number

Syntax Description

type number

Type and number of another interface on which the router has an assigned IP address. It cannot be another unnumbered

Default

Disabled

Command Mode

Interface configuration

Cisco Network Protocols Command Reference, Part 1, Version 11.2, IP Commands, pp. V-147 to V-148 http://www.cisco.com/en/US/products/sw/iosswrel/ps1824/products_command_reference_ chapter09186a0080080d98.html

Select "ip unnumbered" link, or select PDF icon for entire document and go to cited pages]

Huawei "ip unnumbered" Command (2 of 2)

User Manual – Command Reference (Volume 1) Versatile Routing Platform

Chapter 1

IP Address Configuration Commands

Usage Guideline

* *

×

Whenever the unnumbered interface generates a packet (for example, for a routing update), it uses the address of the specified interface as the source address of the IP packet. It also uses the address of the specified interface in determining which routing processes are sending updates over the unnumbered interface. Restrictions include

- 1) Serial interfaces using HDLC, PPP, Balanced (LAPB), and Frame Relay encapsulations, as well as Serial Line Internet Protocol (SLIP) and tunnel interfaces can be unnumbered. It is not possible to use this interface configuration command with X.25 or Switched Multimegabit Data Service (SMDS) interfaces.
- You cannot use the ping command to determine whether the interface is up, because the interface has no address. Simple Network Management Protocol (SNMP) can be used to remotely monitor interface status. ন
 - You cannot netboot a runnable image over an unnumbered serial interface.
 - You cannot support IP security options on an unnumbered interface. ⊕4

The interface you specify by the type and number arguments must be enabled (listed as "up" in the show interfaces command display).

The interface-type interface-number cannot be another unnumbered interface.

Example

Allow IP unnumbered from Ethernet 0 encapsulated with PPP.

Quidway(config-if-Serial0)# ip unnumbered ethernet 0

Related Command

ip proxy-arp

Huawei Command Reference, Version 1.5, Volume 1, Module 04, pp. 1-3 to 1-4

http://datacomm.huawei.com/english/index.html

[Select "Document Center" link; then select "VRP Command and Configuration Manual" link; then select "Command ReferenceV1.5"; then select "Command Reference(V1.5)-Volume 1" link.]

Cisco "ip unnumbered" Command (2 of 2)

*

×

* *

ip unnumbered

This command first appeared in Cisco 1OS Release 10.0.

Usage Guidelines

Whenever the unnumbered interface generates a packet (for example, for a routing update), it uses the address of the specified interface as the source address of the IP packet. It also uses the address of the specified interface in determining which routing processes are sending updates over the unnumbered interface. Restrictions include the following:

- Serial interfaces using HDLC, PPP, Link Access Procedure, Balanced (LAPB), and Frame Relay encapsulations, as well as Serial Line Internet Protocol (SLIP) and tunnel interfaces can be unnumbered. It is not possible to use this interface configuration command with X.25 or Switched Multimegabit Data Service (SMDS) interfaces.
- You cannot use the ping EXEC command to determine whether the interface is up, because the interface has no address. Simple Network Management Protocol (SNMP) can be used to remotely monitor interface status.
- You cannot netboot a runnable image over an unnumbered serial interface.
- You cannot support IP security options on an unnumbered interface.

The interface you specify by the type and number arguments must be enabled (listed as "up" in the show interfaces command display)

unnumbered. This allows you to conform with RFC 1195, which states that IP addresses are not If you are configuring IS-IS across a serial line, you should configure the serial interfaces as required on each interface. Cisco Network Protocols Command Reference, Part 1, Version 11.2, IP Commands, pp. V-147 to V-148 http://www.cisco.com/en/US/products/sw/iosswrel/ps1824/products_command_reference_ chapter09186a0080080d98.html

Select "ip unnumbered" link, or select PDF icon for entire document and go to cited pages]

Cisco "ip tcp header-compression" Command (1 of 2) Huawei "ip tcp header-compression" Command (1 of 2)

User Manual - Command Reference (Volume 1) Versatile Routing Platform

Chapter 2 IP Performance Configuration Commands

ip tcp header-compression

× × × *

2.7 ip tcp header-compression

To enable TCP header compression, use the ip tcp header-compression command. To disable compression, use the no form of this command.

ip tcp header-compression

no ip tcp header-compression

Default

Disabled

Command Mode

Interface configuration mode

ip tcp header-compression

To enable TCP header compression, use the ip tcp header-compression interface configuration command. To disable compression, use the no form of this command.

no ip tcp header-compression [passive] ip tcp header-compression [passive]

Syntax Description

passive

packets on the same interface are compressed. If you do not specify the (Optional) Compresses outgoing TCP packets only if incoming TCP passive keyword, the Cisco IOS software compresses all traffic.

Default

Disabled

Command Mode

Interface configuration

Cisco Network Protocols Command Reference, Part 1, Version 11.2, IP

http://www.cisco.com/en/US/products/sw/iosswrel/ps1824/products_command_reference_ chapter09186a0080080d98.html

Select "ip tcp header-compression" link, or select PDF file for entire document and go to cited page]

Commands, pp. V-142 Huawei Command Reference, Version 1.5, Volume 1, Module 04, pp. 2-4 to 2-5 http://datacomm.huawei.com/english/index.html

[Select "Document Center" link; then select "VRP Command and Configuration Manual" link; then select "Command ReferenceV1.5"; then select "Command

Reference(V1.5)-Volume 1" link.

Huawei "ip tcp header-compression" Command (2 of 2)

User Manual - Command Reference (Volume 1) Versatile Routing Platform

Chapter 2 IP Performance Configuration Commands

> * *

×

*

Usage Guideline

proportion in all the transmitting data, so TCP header-compression can be used to When running PPP in the lines of low speed WAN, the TCP header accounts for a large mprove the efficiency of data transmission.

(usually using terminals) tends to use small packets while file transfers use large packets. This feature only compresses the TCP header, so it has no effect on UDP You can compress the headers of your TCP/IP packets in order to reduce the size of Compressing the TCP header can speed up Telnet connections dramatically. In HDLC or Point-to-Point (PPP) encapsulation. You must enable compression on both ends of a serial connection. RFC 1144 specifies the compression process. general, TCP header compression is advantageous when your traffic consists of many small packets, not for traffic that consists of large packets. Transaction processing your packets. TCP header compression is supported on serial lines using Frame Relay, packets or other protocol headers. When compression is enabled, fast switching is disabled. This means that fast nterfaces like T1 can overload the router. Consider your network's traffic characteristics before using this command.

Example

Enable TCP header-compression at the PPP interface Serial0.

Quidway(config-if-Serial0)# ip tcp header-compression

Related Command

encapsulation ppp

Huawei Command Reference, Version 1.5, Volume 1, Module 04, pp. 2-4 to 2-5

http://datacomm.huawei.com/english/index.html

Select "Document Center" link; then select "VRP Command and Configuration Manual" link; then select "Command ReferenceV1.5"; then select "Command Reference(V1.5)-Volume 1" link.]

Cisco "ip tcp header-compression" Command (2 of 2)

ip tcp header-compression

Jsage Guidelines

× * *

his command first appeared in Cisco IOS Release 10.0.B

PPP) encapsulation. You must enable compression on both ends of a serial connection. RFC 1144 using terminals) tends to use small packets while file transfers use large packets. This feature only specifies the compression process. Compressing the TCP header can speed up Telnet connections ICP header compression is supported on serial lines using Frame Relay, HDLC or Point to-Point You can compress the headers of your TCP/IP packets in order to reduce the size of your packets. many small packets, not for traffic that consists of large packets. Transaction processing (usually dramatically. In general, TCP header compression is advantageous when your traffic consists of compresses the TCP header, so it has no effect on UDP packets or other protocol headers. When compression is enabled, fast switching is disabled. This means that fast interfaces like T1 can overload the router. Consider your network's traffic characteristics before using this command.

Example

In the following example, the first serial interface is set for header compression with a maximum of ten cache entries:

interface serial 0

ip tcp header-compression
ip tcp compression-connections 10

Related Command

ip tep compression-connections

ip icp compression-connections

Cisco Network Protocols Command Reference, Part 1, Version 11.2, IP Commands, pp. V-142 http://www.cisco.com/en/US/products/sw/iosswrel/ps1824/products_command_reference_ chapter09186a0080080d98.html

Select "ip tcp header-compression" link, or select PDF file for entire document and go to cited page]

IN THE SAN TED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS THE PERMANSIBLY BELDINGSTONE CISCO SYSTEMS, INC. AND CISCO TECHNOLOGY, INC. CONTRACTOR CONTRACTOR DECLARATION OF CHARLES
GIANCARLO IN SUPPORT OF
PLAINTIPE CISCO'S MOTION FOR
PRELIMINARY INJUNCTION TUAWE TECHNOLOGIES, CO., LT. HUAWEI AMERICA, INC. AND S FUTUREWEI TECHNOLOGIES, INC CONTAINS CONTIDENTIAL CISCO INFORMATION GOOD TO BE ON THE SUBJECT TO PROTECTIVE ORDERED CIVIL ACTION NO. 2305.C THURSDAY STEAMES DISTERNED COURTED REPORT FASTERS DISTRICT OR TEXAS - MARSHALL DIVISION

CONFIDENTIAL

Plante: 428/16 Gancelo

CSI-CLI-03838924

IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS MARSHALL DIVISION

CISCO SYSTEMS, INC. AND CISCO TECHNOLOGY, INC.,

Plaintiffs.

y.

HUAWEI TECHNOLOGIES CO., LTD., HUAWEI AMERICA, INC. AND FUTUREWEI TECHNOLOGIES, INC.,

Defendants.

CIVIL ACTION NO. 2:03-CV-027

DECLARATION OF CHARLES GIANCARLO IN SUPPORT OF PLAINTIFF CISCO'S MOTION FOR PRELIMINARY INJUNCTION

I. Charles Giancarlo, declare as follows:

- 1. I make this declaration in support of Cisco Systems, Inc.'s and Cisco Technology, Inc.'s (collectively "Cisco") Motion for Preliminary Injunction against Huawei Technologies, Co., Ltd., Huawei America, Inc., and Futurewei Technologies, Inc. I have personal knowledge of the facts set forth in this declaration and, if called to testify as a witness, could and would competently testify to them under oath.
- 2. I am the Senior Vice President and General Manager of Technology Development at Cisco. I am also head of Cisco's Carrier Systems Group and Switching, Voice & Storage Group. I have been employed by Cisco since December 1994. Throughout my career at Cisco, I have been involved in the development of leading-edge high volume networking products, including Cisco routers. I have also been directly involved in the marketing of Cisco's products and in promoting Cisco's brand awareness.
- 3. Throughout my career at Cisco, I have also been involved in the design, development, and management associated with the proprietary computer operating system that

CONFIDENTIAL FILED UNDER SEAL DOCSSVI:220084.1 DECLARATION OF CHARLES GIANCARLO IN SUPPORT OF CISCO'S MOTION FOR PRELIMINARY INJUNCTION runs on Cisco's routers (as well as other Cisco internetworking devices) called the Cisco Internetwork Operating System (IOS).

A. Cisco's Router Technology Is Very Valuable

- 4. Cisco is a worldwide leader in the development of networking products for the Internet, including network routers. A router is a device that enables data and information to be transported from one network to another locally, regionally, and internationally. Routers are the backbone of Internet traffic, routing packets of data as they are transported from sender to recipient. For example, the transmission of an e-mail message from Dallas, Texas to Hong Kong will pass through multiple routers as the packets of information comprising the messages pass from one network to another.
- 5. The science of routing packets of data through networks is complex and challenging and requires tremendous innovation and technological development to assure that messages are sent quickly and securely and arrive at their intended destination. As a pioneer in this area, Cisco has achieved renown for the technological superiority, convenience, and security of its routers, which in turn have facilitated the amazing growth of computer networks and the Internet.
- 6, Cisco came to its position of technological leadership by hard work and substantial investments in research and development. As a result of its endeavors, Cisco has created valuable intellectual property in the form of patents, copyrights, trademarks, and trade secrets that protect the technology it has created.
- 7. One of the core technologies contained in every Cisco router is the Cisco IOS, a proprietary computer program that manages the routing of packets through the router. IOS is the product of over 15 years of hard work and hundreds of millions of dollars in research and development investment.
- 8. A key component of Cisco's copyrighted IOS programs is Cisco's copyrighted "Command Line Interface" ("CLI"). The CLI is the interface by which users communicate with Cisco routers. It consists of an elaborate structure of textual commands that allow an CONFIDENTIAL 2 DECLARATION OF CHARLES GIANCARLO IN

CONFIDENTIAL FILED UNDER SEAL DOCSSV1:220084.2 2 - DECLARATION OF CHARLES GIANCARLO IN SUPPORT OF CISCO'S MOTION FOR PRELIMINARY INJUNCTION Information Technology ("IT") manager to configure and manage the router. Each command corresponds to a particular function that can be performed by the router. When a command is entered by the human operator, the router performs the function associated with that particular command.

B. Huawei Has Entered the U.S. Market With Infringing Routers, Software and Manuals

- 9. One of Cisco's competitors in the internetworking space is Huawei Technologies, Co., Ltd., ("Huawei"), headquartered in the People's Republic of China. Huawei is a multibillion dollar company that conducts business throughout the world in the manufacture and sale of network communications equipment.
- 10. Huawei manufactures and sells a line of network routers, known as "Quidway" routers, that are designed to compete with Cisco's network routers. Huawei recently introduced its line of Quidway routers for sale in the United States. Huawei has promoted its Quidway Routers as interchangeable with Cisco routers, that is, providing compatible functionality. Huawei promotes its Quidway routers as substitutes for Cisco routers without any loss of functionality, performance, or security. Huawei even adopted Cisco's product numbering system for its Quidway routers to convey the point that a Quidway router is being offered as a "Cisco "clone." The computer software that operates on Huawei's routers, known as "VRP," could be downloaded in the U.S. via the Huawei website. User manual documentation for VRP and the user interface it implements was also available in the U.S. via Huawei's website.
- As detailed in Cisco's complaint, Huawei has engaged in wholesale theft and copying of Cisco's intellectual property to develop its Quidway routers. According to Cisco's allegations, that theft includes the adoption of Cisco's patented processes, the unlawful access to and copying of Cisco's proprietary IOS source code, the copying of Cisco's CLI and the copying of Cisco's copyrighted user manuals. The overwhelming evidence of this theft is discussed in more detail in the other declarations submitted by Cisco in support of its Motion for Preliminary Injunction.

CONFIDENTIAL FILED UNDER SEAL DOCSSV1:220084.2 - 3. - DECLARATION OF CHARLES GIANCARLO IN SUPPORT OF CISCO'S MOTION FOR PRELIMINARY INJUNCTION

C. <u>Huawei's Unlawful Copying And Infringement Threatens Cisco With Substantial Irreparable Harm</u>

- 12. Huawei's unlawful copying of Cisco's copyrighted materials, including the IOS code, the CLI and the user manuals, will cause Cisco substantial irreparable injury if it is not enjoined by the Court. Cisco's proprietary IOS is one of the company's most valuable assets and a critical component of Cisco's business. The same holds true for the CLI user interface implemented by the IOS. This interface, which is unique to Cisco, has been developed over many years through the expenditure by Cisco of hundreds of millions of dollars. Cisco has also expended considerable effort and resources in training its customers on the CLI interface. One aspect of this effort is the extensive user documentation Cisco has prepared to describe IOS and the CLI and educate its customers on their use.
- 13. Huawei's unlawful copying of the IOS, CLI and manuals will cause Cisco substantial irreparable injury. First, Cisco loses the exclusivity and control to which it is entitled under the copyright laws. By copying the IOS, CLI and user manuals, Huawei has unlawfully deprived Cisco of the exclusive use of its copyrighted and proprietary materials. Consequently, Huawei can unfairly capitalize on the enormous customer goodwill and loyalty that Cisco has developed with its customer base through the many years of development and refinement of the IOS, the user interface and associated manuals.
- 14. Second, there is compelling evidence that Huawei unlawfully gained access and used the source code from IOS, which Cisco maintains as a trade secret. If Huawei is allowed to continue to possess copies of Cisco's source code, it will be in a position to continue to use or disclose this source code to others, which would cause even more injury to Cisco. The use and disclosure of Cisco's confidential source code undermines the competitive advantage that Cisco has by keeping its source code confidential.
- 15. Third, Cisco will be irreparably injured because Huawei, a competing seller of internetworking equipment, will be able to enjoy a "free ride" on Cisco's work, innovation and customer development. Because it chose copying over independent development, Huawei has avoided the substantial investments made by Cisco (and by other competitors that have not stolen

CONFIDENTIAL FILED UNDER SEAL DOCSSV1:220084.2 DECLARATION OF CHARLES GIANCARLO IN SUPPORT OF CISCO'S MOTION FOR PRELIMINARY INJUNCTION Cisco's intellectual property) in developing an operating system and user interface. Huawei also has avoided the effort and expense in training customers on the use of an operating system and user interface that Cisco and other internetworking vendors have faced. Huawei now can simply ride on Cisco's coat tails, and approach Cisco's customers with claims of Cisco functionality. Huawei's unlawful conduct, therefore, gives it the opportunity to literally steal business opportunities away from Cisco by using Cisco's technology and intellectual property. Cisco Customers approached by Huawei may not understand that the Quidway routers' mimicry of Cisco's advanced features and functionality are made possible by the infringement of Cisco's intellectual property; those customers may then shift their allegiance from Cisco without any awareness of Huawei's unlawful acts. Once customers are lost, it is always difficult to recover them. Huawei's marketing pitch to prospective customers not only threatens Cisco with a substantial loss of market share, but threatens the valuable customer goodwill Cisco has developed over many years of business.

16. Finally, Huawei's theft of Cisco's technology means that Cisco must now compete in the marketplace directly against its own technology. Unless Huawei is enjoined, Cisco is deprived of the right to enjoy the full benefit of its proprietary technology.

D. Conclusion

17. Cisco has expended a great deal of time, money, and resources in the creation of its proprietary IOS, CLI, and user manuals. By choosing to disregard Cisco's intellectual property rights, Huawei has avoided the intellectually challenging process of developing its own intellectual property. If not enjoined, Huawei's actions will render the protections Cisco has sought through the copyright laws meaningless. Huawei actions also threaten to erode Cisco's relations with its customers and deprive Cisco of its hard-carned goodwill. As such, Huawei's actions threaten Cisco with substantial irreparable harm.

CONFIDENTIAL FILED UNDER SEAL DOCSSV1:220084.2 - 5 - DECLARATION OF CHARLES GIANCARLO IN:
SUPPORT OF CISCO'S MOTION FOR
PRELIMINARY INJUNCTION.

Feb-03-03 03:57pm From-C1SCO SYSTEMS

4085266336

T-510 P.02/02 F-584

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct. Executed this 3rd day of February, 2003 at San Jose, California.

Charles Giancarlo

CONFIDENTIAL FILED UNDER SEAL DOCSSVI:220084.2 - 6 - DECLARATION OF CHARLES GIANCARLO IN: SUPPORT OF CISCO'S MOTION FOR PRELIMINARY INJUNCTION

REDACTED VERSION OF DOCUMENT SOUGHT TO BE SEALED

Redacted in its Entirety

REDACTED VERSION OF DOCUMENT SOUGHT TO BE SEALED

Redacted in its Entirety

Exhibit 1196
Arista Networks v. Cisco
Case No. 5:16-cv-923-BLF
USDC-CAND

Arista in Q3 2017

Copyright © Arista 2017. All rights reserved.



Safe Harbor

This presentation and the accompanying oral presentation contain forward-looking statements that are based on our management's beliefs and assumptions and on information currently available to management. Forward-looking statements include all statements other than statements of historical fact contained in this presentation, including information concerning our business plans and objectives, total addressable market, potential growth opportunities, market potential by speed, trends relating to increase in storage, the router market, competitive position, benefits of Arista's platforms, industry environment and potential market opportunities.

Forward-looking statements are subject to known and unknown risks, uncertainties, assumptions and other factors that could cause actual results, performance or achievements to differ materially from those anticipated in or implied by the forward-looking statements including risks associated with: Arista Networks' dispute with Cisco Systems, Inc. including the ITC remedial orders which prohibit the importation of Arista products (or components thereof) into the U.S., or the sale of previously imported products, Arista Networks' ability to redesign its products in a manner not covered by such remedial orders and obtain appropriate governmental approvals for those redesigned products, any penalties assess by the ITC if Arista does not obtain such governmental approvals and Arista Networks' ability to manage our manufacturing and supply chain including the sourcing of components on commercially reasonable terms, if at all; Arista Networks' limited operating history; Arista Networks' rapid growth; Arista Networks' customer concentration; our customer's adoption of our redesigned products and services; requests for more favorable terms and conditions from our large end customers; declines in the sales prices of our products and services; changes in customer order patterns or customer mix; increased competition in our products and service markets, including the data center market; dependence on the introduction and market acceptance of new product offerings and standards; rapid technological and market change; the evolution of the cloud networking market and the adoption by end customers of Arista Networks' cloud networking solutions; Arista Networks' dispute with OptumSoft; and general market, political, economic and business conditions. Additional risks and uncertainties that could affect Arista Networks can be found in Arista's Quarterly Report on Form 10-Q filed with the SEC on November 3, 2017, and other filings that the company makes to the SEC from time to time. You can locate these reports through our website

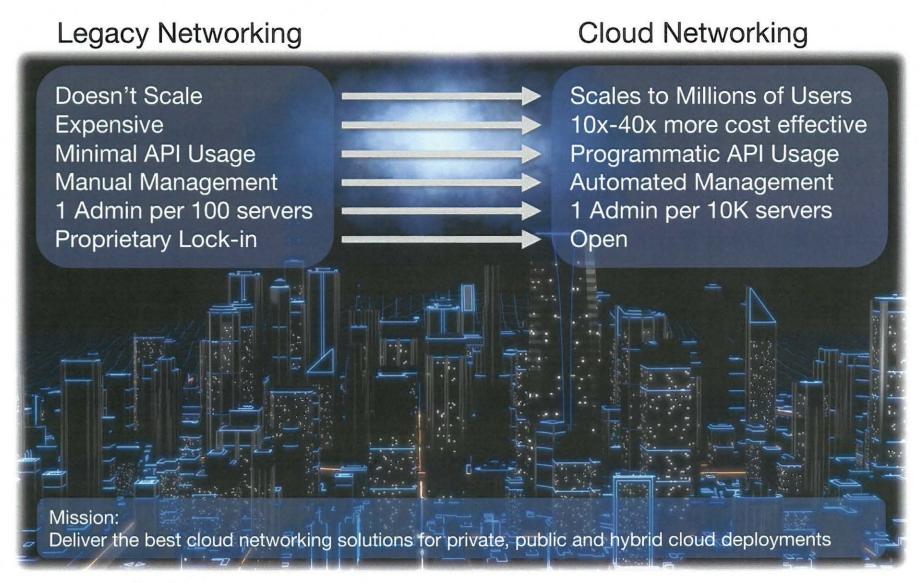
You should not rely upon forward-looking statements as predictions of future events. Although our management believes that the expectations reflected in our forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances described in the forward-looking statements will be achieved or occur. Moreover, neither we, nor any other person, assume responsibility for the accuracy and completeness of the forward-looking statements.

This presentation is being provided as of November 8, 2017 and the forward looking statements and any other statements contained herein speak only as of the date of this presentation, and we undertake no obligation to publicly update any forward-looking statements or any other statements in this presentation for any reason after the date of this presentation to conform these statements to actual results or to changes in our expectations, except as required by law.

In addition to GAAP financial information, this presentation includes certain non-GAAP financial measures. The non-GAAP measures have limitations, and you should not consider them in isolation or as a substitute for our GAAP financial information. There are limitations to the use of non-GAAP measures. Non-GAAP gross margins and non-GAAP operating income exclude the impact of stock-based compensation expenses, expenses associated with the OptumSoft and Cisco litigation, and other non-recurring charges or benefits. See the Appendix for a reconciliation of all non-GAAP financial measures to their nearest GAAP equivalent.



Arista Software Driven Cloud Networking



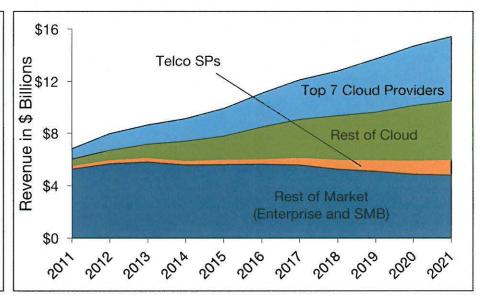


Arista's Cloud Networking Opportunity

Server Shipments

Enterprises/Premises Sow Cloud and Telco SP Ow Only 2012 2013 2014 2015 2016 2011 2018 2019 202 2021

Data Center Ethernet Switch Revenue



Source: Dell'Oro Group Server Research

Source: Dell'Oro Ethernet Switch Market Update Q2'17

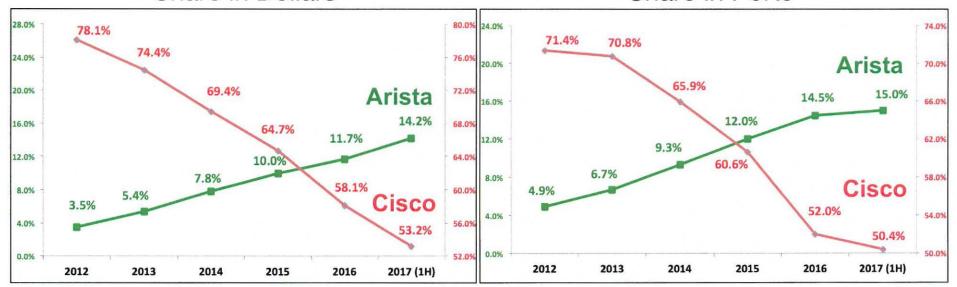
- Enterprise workloads are migrating to public & hybrid clouds
- Traditional enterprise served <100,000 employees vs. Clouds @ hundreds of millions of users
- The emergence of cloud native apps & containers necessitates a new architecture



Arista Market Share vs Cisco High Speed Data Center Switching Market

Share in Dollars

Share in Ports



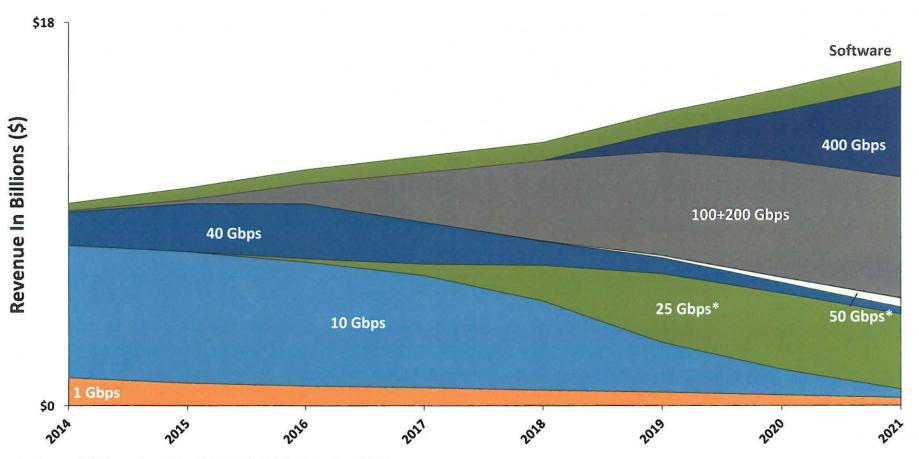
Source: Crehan Research Datacenter Switch Market Share Report Q2'2017

Note: Excludes blade switches



Market Potential by Speed

Data Center Ethernet Switch Revenue (\$Bn)

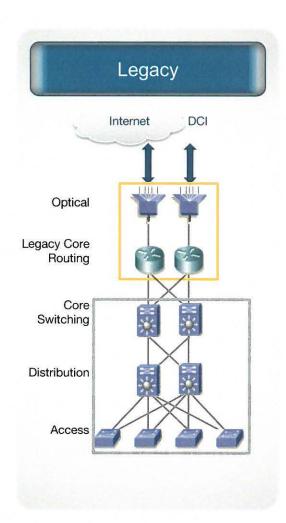


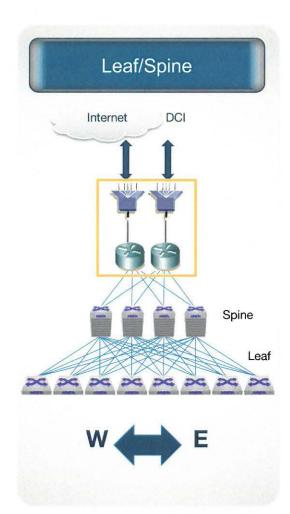
Source: 650 Group Long Term Ethernet Switch forecast June 2017

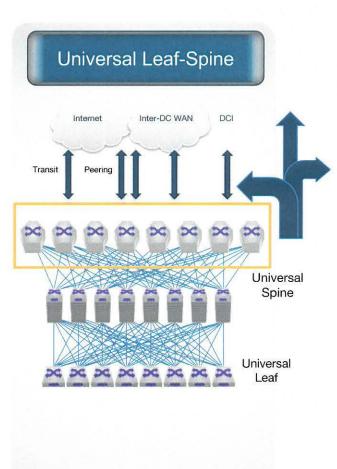
^{*}Shows discrete 25G or 50G ports only. A significant portion of 25/50GE server ports are expected to connect via QSFP-100G break out to 100 GE switch ports at the large Cloud Service Providers.



Evolution of the Universal Cloud Network Architecture







Routing is Integrated into the Universal Spine and Leaf



Proven Architecture Flexibility Open, Programmable, Modular, Scalable

Automation, Telemetry, Diagnostics



One Tool for Automation, Control, Telemetry and Diagnostics

EOS





One Image, Flexible Packaging Option

Arista EOS

Abstraction Layer

Hardware
System Design





Leading Performance in Cooling, Energy Efficiency, Serviceability, Scale and Breadth of Optics

10G, 25G, 40G, 50G, 100G → 400G

Leading Performance
Best of Breed
Merchant Silicon



A Single Image Architecture Underpins a Sustainable Competitive Advantage



Switching, Routing, DCI on Universal Leaf, Universal Spine



Containerized EOS, running on Arista or whitebox



Seamless
Private/Hybrid
Cloud Integration

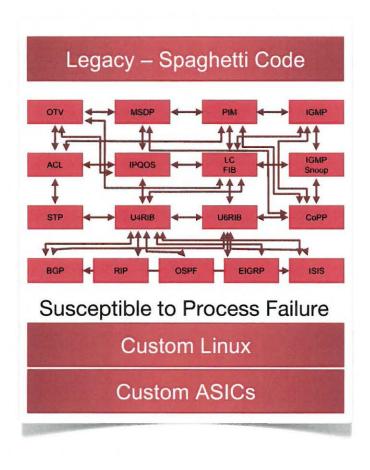
Q: Why a single image?

A: It improves network availability, saves time and money. How? Dramatically reduces new release qualification time. Simplifies PIC interoperability. Simplifies and scales automation.



Arista's Cloud Scale Software Architecture

- Differentiated Advantages
 - Modern, open, and scalable architecture
 - Software Quality





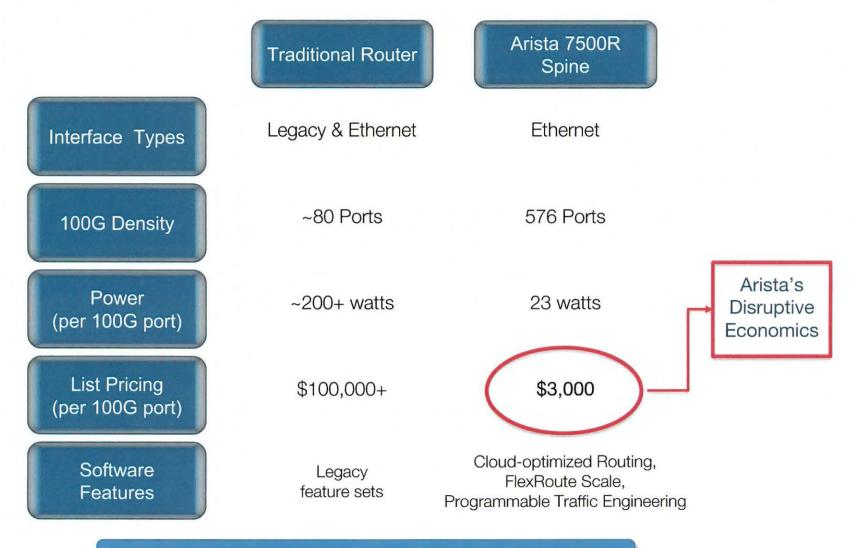
Resilient

Programmable

Scalable



Disruptive Cloud Economics for Routers

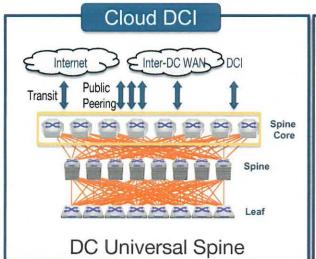


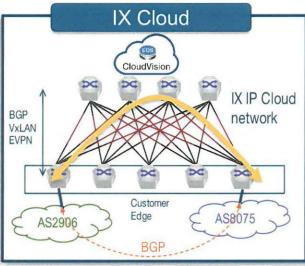
7500R disrupting router market w/100GbE routing transition

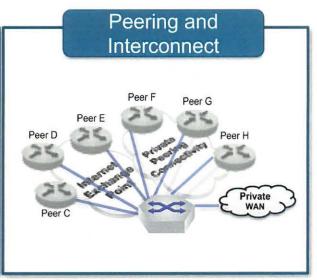


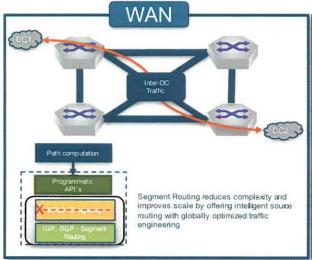
Expanding Routing Use Cases-Arista's Universal Leaf & Spine

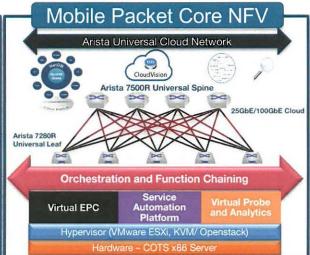


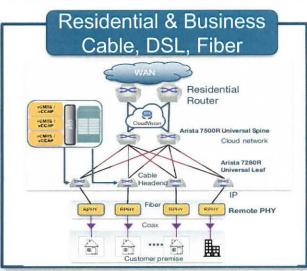








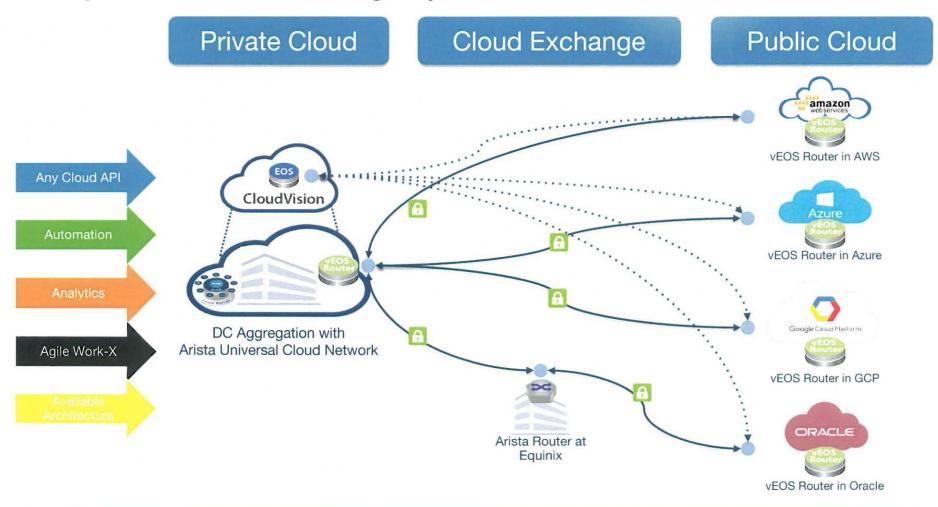






Arista Any Cloud Platform Hybrid Cloud Networking Anywhere

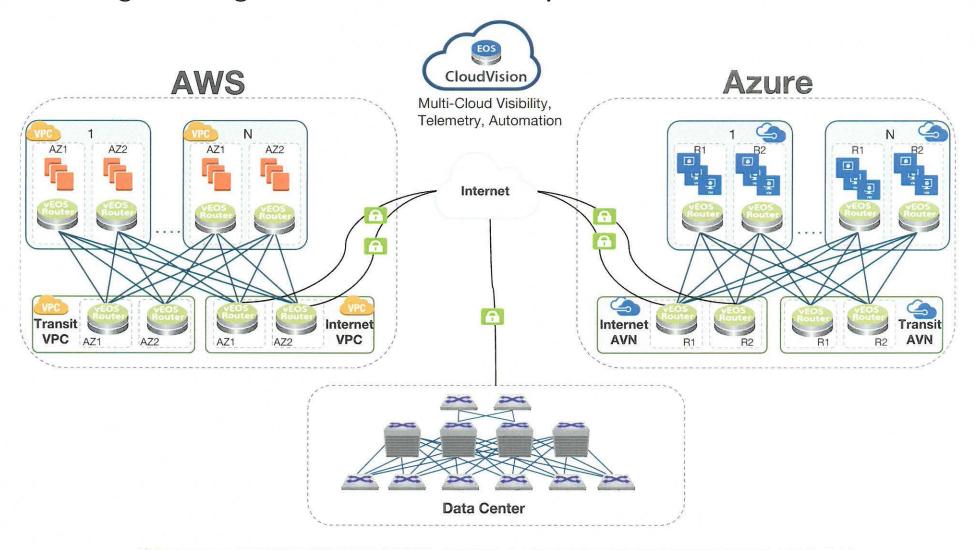




Operational Consistency Across Multiple Clouds



Segmenting the Cloud with Multiple Cloud Providers



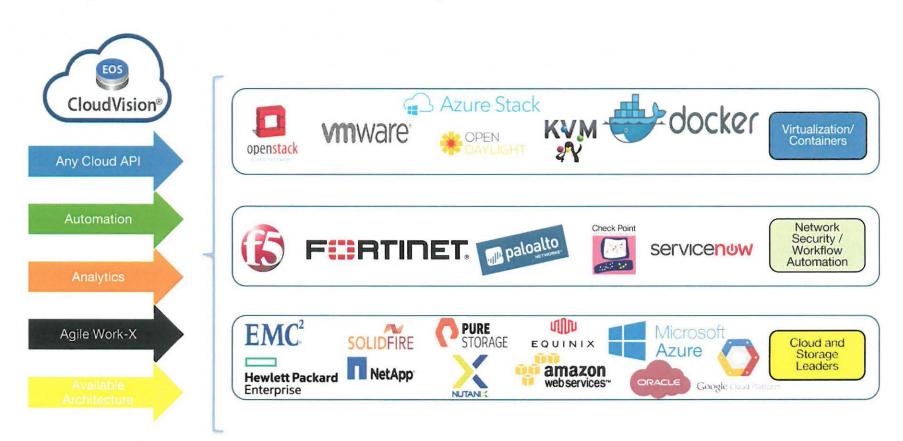
Cloud Networks are Segmented into Multiple Virtual Private Clouds
Offered by Multiple Cloud Providers

Copyright @ Arista 2017. All rights reserved.



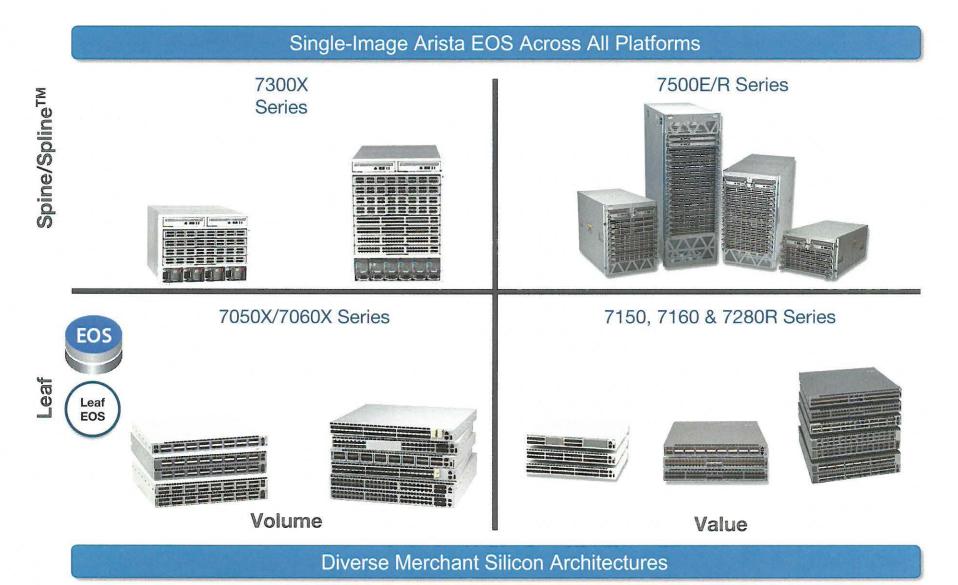
Expanding Ecosystem

- Drive Automation with best of breed partners: security, overlays, orchestration, and storage
- Advanced Analytics and network wide services
- Any Work-X with CloudVision for workloads, workflows and work-streams





Cloud-Class Market Leadership Platform Portfolio





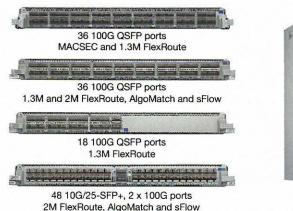
Scaling up the Cloud Next Generation (R2) Universal Spine and Leaf



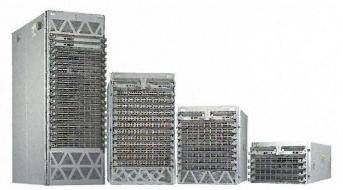
Common single EOS image, Deep Buffer, Lossless Architecture, Large Tables

Choice of form factors, density and port speeds for varying use cases

Standards based switching for reliable deployments



7500R Line Cards



7500R Systems

7500R Universal Spine



30 QSFP100 1.3M and 2M FlexRoute, AlgoMatch and sFlow



60 QSFP100 1.3M and 2M FlexRoute, AlgoMatch and sFlow

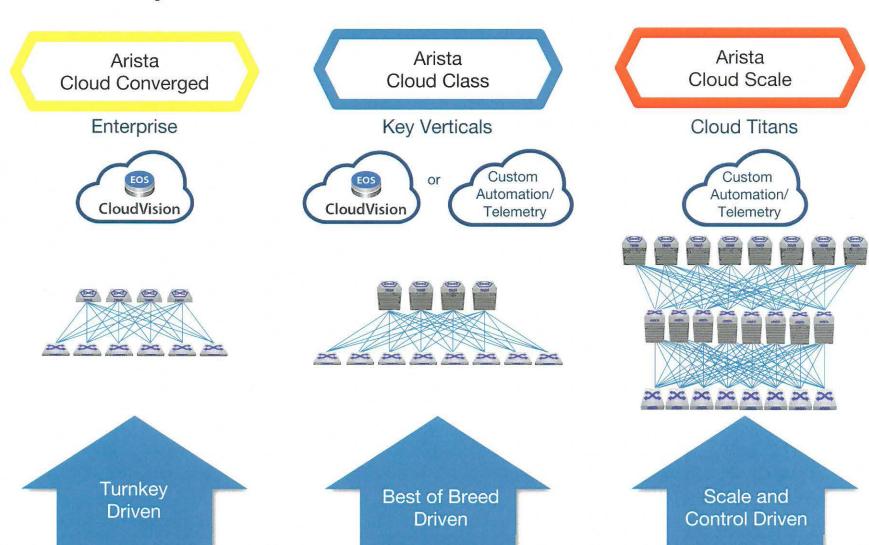


48 10/25G-SFP / 6 QSFP100 1.3M FlexRoute and AlgoMatch

7280R Universal Leaf



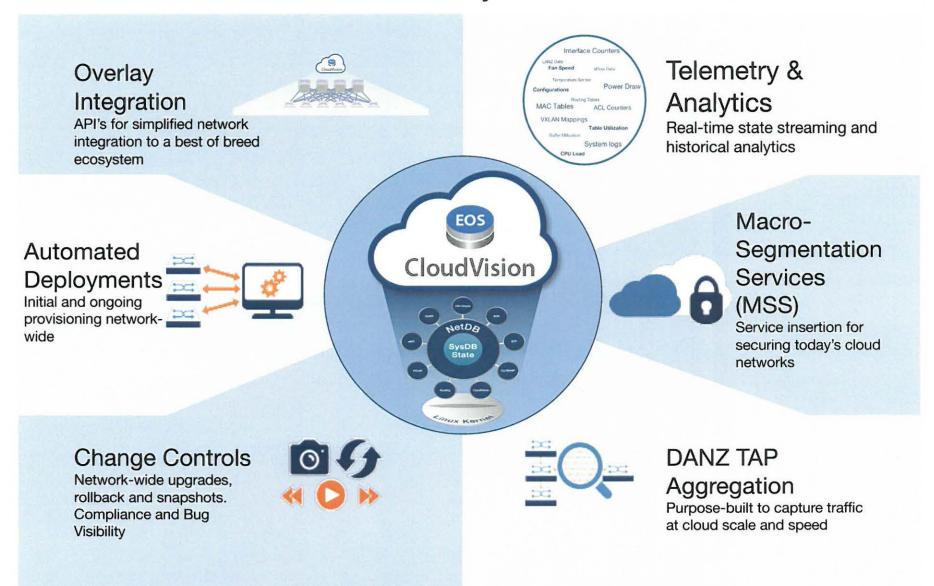
Cloud Networking is Everywhere: Three Key Markets – One Architecture – One EOS



Copyright @ Arista 2017. All rights reserved.

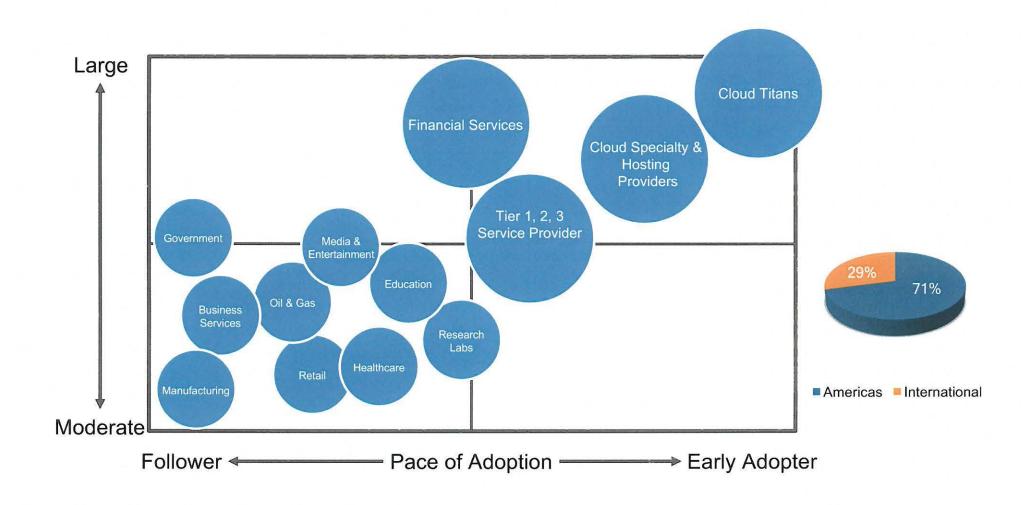


CloudVision: Multi-Function Hybrid Cloud Platform





Major Verticals



Note: By Billings. Only selected verticals shown. Diagram not to scale.



Foundational Technology Underpins TAM Expansion

- We partner with customers and follow their journey
- EOS software drives repeat purchases, Arista cultivates customer advocacy
- EOS software organically enables additional use cases

Top 15 Customers	Q4 Q 2014 201		Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017	Q2 2017	Q3 2017
Customer1												
Customer2	Zi stati										ISC STATE	
Customer3												
Customer4												
Customer5												
Customer6	F111100								31111			
Customer7												
Customer8										The same		
Customer9												
Customer10			En/A				Pine.			HILL		
Customer11												
Customer12												
Customer13						MIL.						
Customer14						A Section						
Customer15												

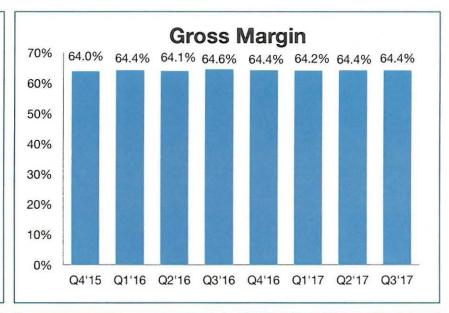
Additional Purchases

Chart illustrates the top 15 customers based on the last 12 quarters of total product and service billings.

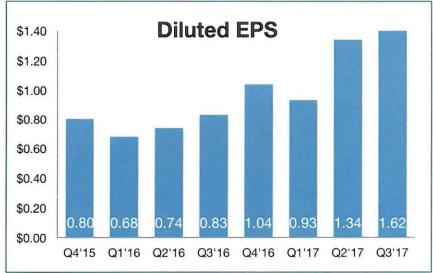


Financial Highlights¹





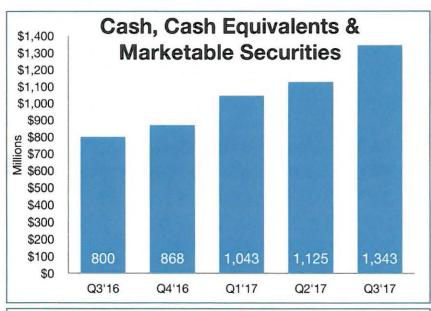


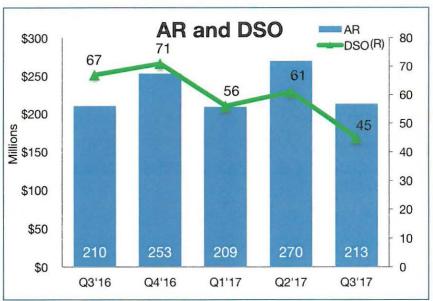


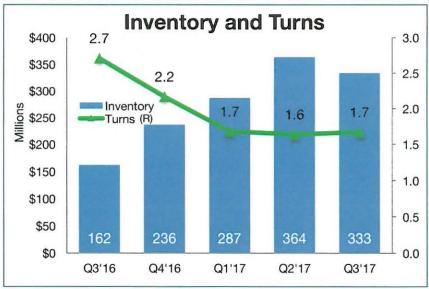
¹ Amounts are non-GAAP except for Revenue; refer to reconciliation between non-GAAP and GAAP in the appendix.

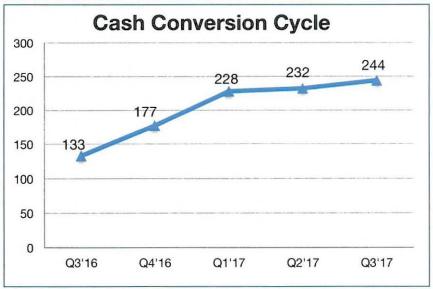


Balance Sheet & Cash Conversion Cycle











Arista in Q3 2017

Key Highlights

Introduced <u>Arista Any Cloud software</u> <u>platform</u>, reducing operational costs and complexity for enterprises by simplifying integration and management of hybrid clouds across private cloud datacenters and public cloud providers.

Arista Networks makes the top 10 in FORTUNE magazines 100 Fastest-Growing Companies September 2017 issue.

Continued adoption of Cloud Networking across key verticals.

Financial Results (non-GAAP)1

Q3'17 Revenue: \$437.6M

Q3'17 EPS: \$1.62

Q3'16-Q3'17 YOY Revenue Growth: 51%

Q3'17 Gross Margin: 64.4%

Q3'17 Operating Margin: 38.6%

Mission:

Deliver the best cloud networking solutions for private, public and hybrid cloud deployments

¹ Amounts are non-GAAP except for Revenue; refer to reconciliation between non-GAAP and GAAP in the appendix.



Appendix: GAAP to Non-GAAP Reconciliation

In 000's except per share data		Q4'15	Q1'16	Q2'16	Q3'16		Q4'16	Q1'17	Q2'17		Q3'17
GAAP gross profit	\$	156,168	\$ 155,090	\$ 171,451	\$ 186,420	\$	210,155	\$ 214,210	\$ 259,777	\$	280,617
GAAP gross margin		63.6%	64.0%	63.8%	64.2%		64.1%	63.9%	64.1%		64.1%
Stock-based compensation expense		842	793	868	955		1,004	1,024	1,087		1,113
Non-GAAP gross profit	\$	157,010	\$ 155,883	\$ 172,319	\$ 187,375	\$	211,159	\$ 215,234	\$ 260,864	\$	281,730
Non-GAAP gross margin		64.0%	64.4%	64.1%	64.6%		64.4%	64.2%	64.4%		64.4%
GAAP income from operations	\$	49,397	\$ 49,735	\$ 53,158	\$ 63,021	\$	77,495	\$ 73,418	\$ 116,634	\$	140,832
GAAP operating margin		20.1%	20.5%	19.8%	21.7%		23.6%	21.9%	28.8%		32.2%
Stock-based compensation expense		12,978	13,360	14,232	15,116		16,324	16,439	18,400		20,152
Litgation expenses		8,956	7,005	7,594	9,025		12,209	11,466	11,957		7,857
Non-GAAP income from operations	\$	71,331	\$ 70,100	\$ 74,984	\$ 87,162	\$	106,028	\$ 101,323	\$ 146,991	\$	168,841
Non-GAAP operating margin		29.1%	28.9%	27.9%	30.0%		32.3%	30.2%	36.3%		38.6%
GAAP diluted net income to common stockholders	\$	43,464	\$ 34,941	\$ 38,635	\$ 50,980	\$	58,542	\$ 82,716	\$ 102,474	\$	133,555
Net income attributable to participating securities		460	304	269	277		241	245	211		167
Stock-based compensation expense		12,978	13,360	14,232	15,116		16,324	16,439	18,400		20,152
Litigation expenses		8,956	7,005	7,594	9,025		12,209	11,466	11,957		7,857
Excess tax benefits on stock-based awards		-	-	-	-		-	(28,790)	(19,079)		(23,826)
Release of income tax reserves		(968)		-	(6,293)		-		-		-
Tax effect of non-GAAP exclusions		(7,424)	 (6,524)	(7,056)	(7,924)		(9,836)	(10,269)	(8,493)		(9,683)
Non-GAAP net income	\$	57,466	\$ 49,086	\$ 53,674	\$ 61,181	\$	77,480	\$ 71,807	\$ 105,470	\$	128,222
GAAP diluted income per share to common stockholders	\$	0.60	\$ 0.48	\$ 0.53	\$ 0.69	\$	0.79	\$ 1.07	\$ 1.30	\$	1.68
Non-GAAP adjustments to net income per share		0.20	0.20	0.21	0.14		0.25	(0.14)	0.04		(0.06)
Non-GAAP diluted income per share	\$	0.80	\$ 0.68	\$ 0.74	\$ 0.83	\$	1.04	\$ 0.93	\$ 1.34	\$	1.62
GAAP and non-GAAP weighted diluted shares		72,062	72,214	72,817	73,453	231	74,384	77,516	78,756	000	79,322



EXHIBIT A8

For Single Print Only

NETWORKWORLD Reprint

THE CONNECTED ENTERPRISE = FEBRUARY 22, 2013

How Arista Networks got out in front of the SDN craze

Arista CEO Jaysbree Ullal says 'cloud networking leader' complements Cisco

BY JOHN GALLANT, NETWORK WORLD

oday, the buzz in networking is all around software-defined networks — and nothing could make Arista Networks CEO Jayshree Ullal happier. Ullal spent 15 years at Cisco, where she ran the network giant's core switching and data center businesses, before joining Arista, which was founded by Sun Microsystems co-founder and Chief System Architect Andy Bechtolsheim and David Cheriton, a Stanford University professor of computer science and electrical engineering (and fellow Cisco alumnus). Ullal says Arista's data center switches were born to support SDN and provide both the power and flexibility required for today's highly virtualized corporate and cloud data centers. In this installment of the IDG Enterprise CEO Interview Series, Ullal spoke with Chief Content Officer John Gallant about the reality and hype around SDN, and why the data center requires a different network than your father's general-purpose Cisco net. She also explored how her work at Cisco shaped Arista's strategy, and shared insights on how Arista's partnerships with VMware and Cloudera are making it easier to move to cloud and embrace big data, respectively.

There are a lot of networking alternatives out there. Why should someone buy from Arista?

Arista saw three disruptions in the market: a hardware disruption; a software disruption; and a customer buying disruption, which in my mind is the most important thing. You can invent all you want on the technology side, but you have to see the customers changing their market position.

The hardware technology disruption was that in the 1990s, the only way to build any kind of high-speed networking was through your own in-house ASICs [application-specific integrated circuits] and specialty chips. That's not true anymore. We have from three to five vendors available, whether it's Intel, Broadcom or others, supplying us much of the silicon. They are sometimes an order of magnitude better in power, footprint, density, latency, and performance and scale.

Arista was able to take advantage of that disruption in hardware.

The second is software. We were very inspired by Cisco's software focus on the enterprise side, Juniper's on the service provider side, and we saw that we could build a purpose-built, modern operating system only for the data center and the cloud. We didn't try to do it for general-purpose networking. We really focused on our mission, which is high-performance applications for the data center and cloud. It's called Extensible Operating System (EOS) and there is no networking operating system that is as modern, self-healing and resilient, and [designed for the cloud].

And the third, speaking of that, is the cloud itself. The enterprise market is shifting. Every CIO is being demanded a strategy on what they are doing with the cloud in terms of applications and infrastructure. Whether it's a private cloud, a public cloud or a hybrid cloud, these are becoming an important piece of the strategy. As Amazon innovated on the application side, you can think of Arista as really providing that market disruption on the networking side.

Explain the cloud angle in a little more depth. What were you setting out to do to support or enable cloud?

More and more people are outsourcing to modern applications — whether it's Salesforce.com or Amazon itself. [They're supporting] high-performance computing, or high-frequency trading or, increasingly now, big data and network virtualization. The network infrastructure needs to adapt. It cannot be so monolithic. It cannot be one physical port equals one VLAN equals one network switch. It really needs to be much more massive in scale. A typical enterprise network is a 10,000-node, three-tier network, and we were able to build a much flatter, fatter topology at Layer 2 and 3, using what we call the leaf-spine architecture that can scale to 50,000 to 100,000 nodes. That was our first premise.

The second [thing we focused on] was application delays. Don't build a network

Our top five differentiators are all tied to our software."

— Jayshree Ullal, CEO, Arista Networks



as a cost center, but really build it as a profit center by addressing the applications themselves. We early on entered the high-frequency trading market to understand their trading algorithms, map it to the latency requirements. That became an instance of a high-performance financial cloud where they started building the network for that application separate from the enterprise network.

In Silicon Valley, a large number of Web 2.0 providers, whether they're search engines or social networking, the kind of scale they build is just unbelievable. It's 100,000 nodes, and increasingly, one machine, one physical server, is not one node. That's 20 virtual machines, which means you could be enabling 100,000 physical nodes but you are really enabling 1 million virtual nodes. There's huge virtual machine sprawl and physical sprawl. The CPU at one point wasn't being fully utilized. But now, with the new multi-core CPUs, the pressure is back on the network. That's why whether it's a private or a public cloud, the Web 2.0 companies are moving massively to highdensity 10G, 40G and 100G [networks] that are requiring a new type of architecture and new software as well.

What are the things that make you different than a general-purpose networking company like Cisco?

At the highest level I would say our software, our EOS. It's open, it's built out of straight Linux. But then we added what we call multi-processing, state-oriented software that allows you to do the kind of things that you could only do in mainframes and servers. It's funny how hardware changes every 18 months in networking, but software doesn't change for decades and has remained monolithic

For Single Print Only

for so long. Our top five differentiators are all tied to our software.

The first is that we build, without using any proprietary components, active/active networks that can scale to 50,000 and 100,000 nodes. Other companies try to do that with proprietary technologies. You may be aware of Juniper's QFabric or Cisco's FabricPath and OTV [Overlay Transport Virtualization]. We are able to do it in a standards based fashion, and every one of our networks interoperates with Cisco routers, Juniper switches, NetScreen firewalls, you name it.

The second is, because of the software, we were able to bring to the data center and cloud what we call self-healing resilience. Usually, redundancy and resilience means buy two of everything and connect them in case one fails. It's great for the vendor to get two of everything. But we were able to do it right in our software. Today, you look at software agents and how they interact. If you have a memory leak in software today, and the agents talk to each other in a traditional network operating system, they do so with something called IPC, inter-process communication. But think of the cloud where you have, like we described, 100,000 of these, the multiplier effect of failure is huge with this inter-process communica tion. Arista chose a publish/subscribe mod el using a built-in SYSDB database, where the state of every software agent is stored. Because that's not human-generated, it's the most resilient piece of code. Let's say you have a failure. We automatically track the failure and contain it. Then we repair it. We actually spin up a new agent. Today's enterprise agent manager has no maintenance windows. So they don't have to know.

The third [differentiator] is that we are open and programmable. You hear a lot of talk about SDN these days, and one has to separate the hype from the reality. The es sence of SDN to me is, first of all, build open interfaces and allow your customers to write to their applications through our APIs at the northbound level, and at the southbound level our devices must be programmable. We didn't call it SDN back when we developed this, we called it EOS. The extensible in EOS is [in reference to the operating system being] very programmable. Every aspect of our software, whether it's at the hardware plane, at the device plane or the software plane, can be programmed. That's a huge advantage. We find ourselves in a fortunate position that as the SDN market is evolving, our network is already open and programmable and SDN-ready.

The fourth one is big data analysis. Data analysis and traffic visibility is becoming a real weakness, because, as you know, we can all talk about improving price, performance and CAPEX, but the biggest cost center in networks is OPEX. There are three ways to solve OPEX issues: Stop buying gear, outsource your gear or make your technology do better work. We believe technology to solve the problem is far better than outsourcing or throwing people at the

problem. We call this "from A to Z analysis." We can do automation, we can do zero-touch provisioning, we can do a suite of functions here because data is coming at such amazing speeds, structured and unstructured, how do you sort out what's relevant and how do you monitor, how do you tap, how do you do real-time captures at 10 gigabits and terabits when the data is moving so fast? We're not just building enterprise features. Cisco's done that really well for the last two decades, that's their market. But yet if you look at the way servers are sold today, only half of them are going into an enterprise application. The other half, which are high-performance computing and Web, are going into the cloud applications. They don't require traditional enterprise features. Just like mainframes moved to client server, enterprises are moving to more HPC and Web, and those features are much more about reducing OPEX and improving the orchestration and traffic visibility and data analysis.

The fifth and final differentiator is network visualization. What VMware did to servers with server virtualization, we believe jointly working with VMware we can do with network virtualization. VM sprawl has created network sprawl. Arista and VMware, together with a number of other vendors, Broadcom, Cisco, etc., defined to me what is one of the most breakthrough specifications in our industry $-VXL\Lambda N$, virtual extended LAN. The VLAN, as a unit, is something we all grew up with and in vented back in the '90s. It's been with us 25years, way too long. VLAN boundaries have plagued the deployment of virtualization because you're limited to 6,000 VLANs or 16,000 VLANs, and you've got many more virtual machines. So therefore, you've had a vi-admin manage one, the virtual network, and the command line interface or Cisco admin manage the physical network. These two worlds need to come together. Arista, working particularly closely with VMware, has been able to bridge that gap between network physical and network virtual, using VXLAN. VXLAN all of a sudden opens up the boundary from 16,000 to 16 million possible entries. So we're very excited with the technology we demonstrated at [the VMworld conference].

Is it deployed now in the market?

Very early. We are one of the first to come out with it. We showed it August 2012, and we showed interoperability with VMware, EMC and F5. We shipped a product based on it, the Arista 7150, in November.

Say I'm a big Cisco installation today. When would I talk to Arista? What's the need that opens the door?

It could be project-based or it could be a strategy. When it's project-based, it's usually that you're deploying high-frequency trading or you need a high-performance compute solution, usually InfiniBand and Ethernet get reviewed. Sometimes InfiniBand gets chosen because the supercomput-

er guys really like it and other times it's highdensity 10GB. Another application is big data. Storage is no longer just a fibre-channel SAN — you will start needing 10GB storage for iSCSI or more and more Hadoop clusters with direct-attached storage. That becomes another very interesting Arista project. Virtualization, the VM sprawl. Another one we're starting to see more of is huge media rendering, and video applications that are pushing the envelope of bandwidth. Where the application intersects the network is the common theme through all the projects.

On the other hand, Arista has to walk before it runs. We've been growing at the rate of one new customer a day since we started shipping. We now have 1,700 customers Deployments usually start small, then they get really fascinated and intrigued and appreciative of EOS, and all of its operational advantages, how open it is, how easy it is to use. The training is very easy and a Cisco CCIE expert would be able to use Arista right away, because we have similar command-line interfaces and operational look and feel. Where we don't have to invent, we don't. Where we had to invent for these specific use cases we do, so most often it's a use case or a project. Sometimes it's a data center build-up. After they use us in one project, they'll say they want to consolidate data centers. I would say 10% to 20% of them are now standardizing on Arista as their data center strategy.

You mentioned about 1,700 customers. Give me a sense of your business progress to date.

We're not supposed to [talk revenue] but the company is very young, it's only 5 years old. We've gone from 30 employees when we started to more than 500. I guess the biggest thing I'd leave you with is that in the beginning we were a market leader for financials and high-frequency trading which, as you know, is a tough customer. We've always had to go into mission-critical [environments] and we didn't have it easy ever. It wasn't like we were in a little lab somewhere. We believe we are today 70% to 80% market leaders in high-frequency trading. In 2008, 2009 and even part of 2010, that was 70% of our business. Todav it's diversified nicely into three areas. The first is financials. The second is what I call Web 2.0, and the massive scale of their deployments, the cloud scale, really. The third is cloud and service providers. Every service provider is looking to be a cloud vendor. In all of these three cases we are being looked at as the innovative alternative to traditional legacy players.

You were at Cisco for a long time.

Yeah, 15 years. I intended to be there two years. But I was there 15 years, two years at a time.

So how did your experience at Cisco shape this?

I had a big hand in shaping Cisco's enterprise switching strategy, and it helped me

2 FEBRUARY 22, 2013 www.networkworld.com

For Single Print Only

appreciate what to do and what not to do. At some level I don't feel we compete with Cisco because we're not taking on the traditional enterprise market. But at other levels I feel like I learned a lot about what not to do and how to do [things] better, by being more application-focused and really taking advantage of the market disruption from enterprise to cloud, and then to big data and network virtualization. Cisco, in my view, will always be the enterprise market leader. Arista is inspired and aspires to be the cloud networking leader and really be a complement to Cisco.

Other networking companies have tried to address the needs you have described. Let's take a case in point: Juniper seemed to be targeting the same kinds of problems, so why did the company struggle with its QFabric?

Without making it specific to one vendor, I would say three or four years ago, you rightly pointed out that the market was very crowded. There was Juniper, HP looked like they were coming on strong. there was Force10 that then got acquired by Dell, and then there was Brocade that had acquired Foundry. They have taught me that focus is important. We stayed relentlessly focused on building a standards based open architecture for data centers. I think many of these vendors, they get distracted by growth. It's a difficult call, in the public market especially. It's easy to do when you're private and you don't have to explain things to people. But do you go broad and wide or do you go a mile deep? My belief is I am participating in one of the largest total available markets in the history of networking. The 10G market is going to go from a couple of billion to \$15 billion in 2016. I should not be distracting myself with other markets. I should relent lessly focus on doing my one market very well. I would say that is the failing of many competitors who don't have that kind of focus.

How has the strategy changed since launch? What have you learned in that time period?

We built a point product then and our strategy has changed to a portfolio. We have gone from a top-of-rack (48 ports) to 384 ports in a chassis. Secondly, our software has evolved, not just in millions of lines of code, but in terms of the agility and innovative features. We've been putting out releases practically every quarter since then, to the point that some of our customers say: "Hey, slow down a little! We're unable to absorb it as quickly as you put it out." One customer said to us: "We have all these data centers and we're racking up our servers, we're connecting it to a VLAN and we're enabling DHCP, this whole process is taking us two hours." With our zero-touch provisioning we were able to cut that down to 20 minutes. You think of this in one data center and how

you replicate it, it's a huge multiplier. The third area I'd say we have really evolved is partnerships. We've gotten closer to the big data companies like Cloudera and the virtualization companies like VMware. Because we are best-of-breed, we are in some ways less of a threat and more of a partner to many. The security companies, like Palo Alto Networks, the application delivery companies like F5, view us as a friendly face.

What do you do with Cloudera?

We have actually installed joint networks for big data together. The biggest issue with using these kinds of direct-attached Hadoop systems is that you have to have a network with fast failover characteristics, the right buffering characteristics, and you actually almost have to have a Hadoop tracer-like function between the storage and the network. Because, remember, all of a sudden you wiped out the concept of a storage-area network, but you still need to have the resilience of a storage-area network. We're in several joint customers together, particularly in mission-critical financials.

I want to go back to EOS for a bit. There is sort of this myth of the unified operating system in networking, but competitors and customers are all running multiple versions and flavors of these OSes. What makes this software different? Why would somebody believe that you have a single unified network operating system where people have struggled with that?

We've proven it. Even though we've been here five years and we've done all the software releases, we still have one single binary image. Nobody has to get a Ph.D. on our software releases because we've kept one single unified code base. Secondly, when people play with the software, they realize that: "Oh, this can do Python scripting, I can write agents to it." So the power that we've given them to enable things that even we don't enable is like no other. Now, I could tell you some people love it. The engineering community loves it. The CIO community is afraid of it. So we also have a lock-down mode where we can have all the security and people can't go in and simply start writing.

At the same time, I would say we are a little bit of a Sybil with our EOS. One side of us looks just like a Red Hat or Linux, and the server guys have fun with it. They can do TCP and dump and bash. It's a Linux kernel, right? Then the other side, for a Cisco administrator, looks just like a Cisco network. When we work with VMware, we talk straight into vCenter and vSphere. So I think the flexibility that we have offered in being open, at the same time not destroying the paradigm between the virtual admin and the sys admin for the server, and the network admin has been unique.

Let's go back to SDN. What's real and what's false about SDN?

If you ask 10 people what SDN means they'll give you 10 different answers. But if I had to describe it in one or two words, I would say: open and programmable. There's been so much vendor lock-up in networking, with the huge operational cost of being locked in with one vendor. That mainframe model in networking is what SDN is challenging. Why is SDN fever and hype so high? People are sick and tired of the vendor lock-in and proprietariness and they are looking for a movement. Now, how and when will that movement happen? Like anything, you have to be pragmatic about that. When the hype is so high the market isn't that big, right? But in my view, SDN has a tremendous opportunity to succeed if we're pragmatic about the use cases. Is SDN OpenFlow? No, it's not just OpenFlow. Is it OpenStack? No, it's not just OpenStack. Is it VXLAN or network vir tualization? Understanding what you can actually do with SDN is the key here.

Let's talk about that programmability aspect. When I talk to people in the market, there are some who are really excited about that piece, but others who think there are only a limited number of things you would ever want to program the network to do. What do you envision people programming the network to do?

I think they're both right for different reasons. In a traditional network, no one is looking to toss their IP out any time soon, so whatever you do you've got to make sure your IP network is up and running. But say you're going to do a green field [installation]. This is how the OpenFlow SDN movement got started at Stanford. [Professor] Nick McKeown was doing this project called Clean Slate, where he was telling his students: "Imagine a world with no IP. How would we define it?" That's all great for vision and strategy, but we've got hundred of thousands of customers operating networks, so you have to understand that no matter how inflexible and how much of a headache your current architecture may be, TCP/IP does work. Then you look at the model that SDN is coming up with, which I call the controller, overlay controller model. That's a controller for OpenStack, OpenFlow, network virtualization, each of them is a use case - it's a specific case where you need programmability. I agree that you shouldn't go and mess with the big IP network. If it's not broken, don't fix it.

Understand what are the use cases you're trying to augment with programmability. I can think of three or four use cases. One of the ones that we found, especially with OpenFlow, but also in IP networking, is data tap aggregation. When you're running at the 10G speeds we are, everybody is looking for traffic visibility and understanding what's going on in the network. You can build an out-of-band

www.networkworld.com FEBRUARY 22, 2013 3

controller with OpenFlow, whether it's Big Switch Networks or open source controllers from Floodlight or NEC, and have an OpenFlow agent on our switches, and have a very simple SDN network that's highly programmable, and still works in hybrid mode with your IP network. That could be one case. There's the Nicera case, which is also, in my view, a programmable use case, but it's for strictly network virtualization. You keep the IP running, but you need a network virtualization platform that can program your virtual switches, whether they're VMware switches or open virtual switches from an OpenStack environment. Today, this is literally like two islands; there's the physical switch and the virtual switch. With Arista working closely with VMware and Nicera, we can transcend the virtual-to-physical islands, where every VXLAN vSwitch port automatically maps to a hardware port. Now you've got network virtualization not as two separate failure domains, but transcending virtual-to-physical, potentially even to a cloud, architecture down the road. This is in a VMware environment, but there's no reason you couldn't do it in an OpenStack environment with quantum plug-ins as well. So that's another use case.

Do you believe SDN fundamentally changes the competitive landscape?

Yes, but I believe the controller vendors in isolation won't succeed. The networking vendors, if they get defensive with just IP won't succeed. You have to have the Arista view, which is have two personalities. Work in a controller mode, but work also with your IP network. That's the mistake I think SDN is making, in that they're thinking of it as only green field. In reality there's a whole world of IP there that you need to work with while you're trying to develop the use cases.

Server virtualization was essentially owned by VMware and the software vendors, not the server vendors. Who ends up owning SDN?

[The server vendors] got defensive. If the networking vendors do not embrace it be cause it requires a new software paradigm that they haven't built, then they stand to lose, because over time there will be more and more use cases that disrupt them. Customers like that. I was talking to a customer today who said: "The most liberating feeling for me now is I can be multi-vendor, and it hasn't cost me that much money.

I don't know if there are that many SDN use cases, but I love it." Arista feels very fortunate that we got an eight-year head start. We spent four years building the software, four years commercializing it, and now we're sitting in the middle of an

SDN momentum and a switch momentum that puts us on the natural cusp, if you will, where we can be working with the old and still developing the new.

Does Arista have its own controller?

No

Is that something you're going to have?

Our control plane and data plane will be open, and we will work with all the controller vendors that you deploy. HP Opsware, vSphere VMware, Nicera, Big Switch, Floodlight, NEC, IBM Tivoli, EMC Smarts. These are all to us controllers. We don't view ourselves as the management expert. Now, if you want to go develop specific use cases for a controller on our switch, we can do that too. And people do that. Like for example, we worked with Splunk very closely to develop a configuration manage ment tool with them.

If you're a CIO or a senior IT executive, and you are on the sidelines looking at SDN and wondering what it's all about, what's the 30-second answer on why they should care about it and start thinking about it now?

Because it unshackles their traditional networking decisions from their application and helps them develop new use cases that they couldn't do before, or only had to do with traditional vendors. The key for them is to understand what problem they are trying to solve. Solve that out-of-band and work with the existing [network].

Using merchant silicon versus custom ASICs, is there a limit to where that can take you?

I think custom ASICs have fallen behind by several years, and unless a vendor can build and compete against merchant silicon, there's no point in doing custom ASICs. It's something that the established vendors have to come to terms with, just like the server community did. There was a time when SPARC was sparkling for Sun, and then everybody had to embrace the x86 Intel world. A similar phenomenon and revolution is happening in networking.

But does it limit the speed at which you can develop your product?

No, actually, it's better. We were most scared when we were only beholden to one vendor. The way our software architecture works, 90% of our engineering is all software. Then there's a driver layer. The driver layer is where we custom ize to the silicon. Today we operate with Intel drivers, with Falcon drivers, with Broadcom drivers, we used to have a company called Dune that got acquired by Broadcom, you know, Marvel. The more drivers, the more we have the roadmap and the R&D of all the silicon vendors, because remember there are always risks. The biggest risk with the silicon vendors is if they miss a cycle. They don't miss it by one or two weeks. They often miss by one or two years, whether they work for you inside the company or outside. We like the fact that we have drivers and have developed drivers over time for all these chip vendors.

What's ahead for Arista in 2013?

Expect to see more capacity, more software, more of everything, and the replacement of our older products. Second, expect us to continue to be application focused, because that's where we think we get appreciated. If it's a straight, traditional network, where nobody gets fired for buying IBM or Cisco, that's not where Arista shines. Arista will continue to provide thought leadership, like we did with high-frequency trading, and like we do now with big data and network virtualization. We're very excited when we think of the number of things we have to do in the software and application world, and prioritizing them, there's so much ahead of us.

Last question: the classic elevator situation. You've got 15 floors with a CIO. You tell them what about Arista?

We're the best-of-breed data center and cloud networking alternative in the market. We're not a cost center, we are an enabler of applications. There are people in highfrequency trading who have told us: "We make \$2 million a day on your boxes." In a nutshell, that's what I would say. We are the thought leader in cloud networking, we enable the applications and we save you CAPEX and OPEX.

R&D and Headquarters

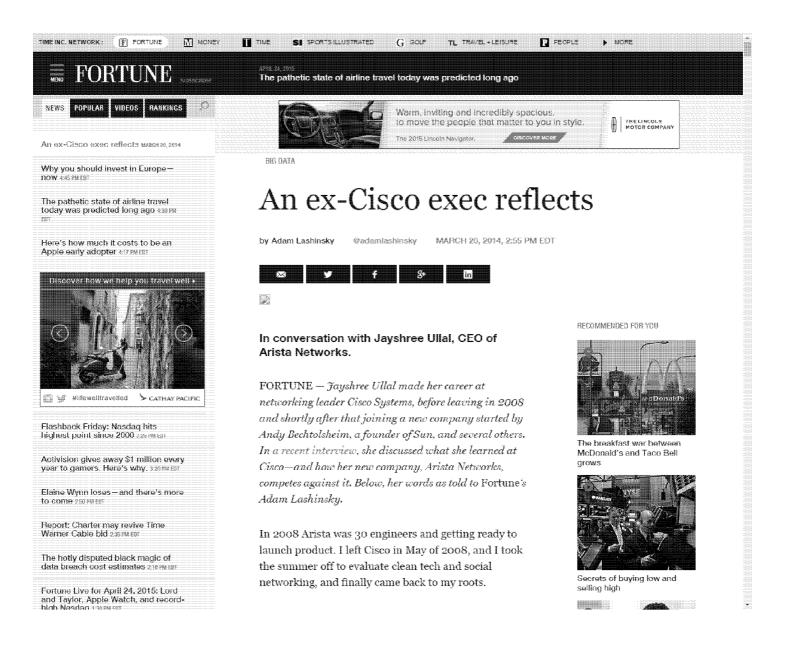
5470 Great America Parkway • Santa Clara, CA 95054 • Tel: 408-547-5500

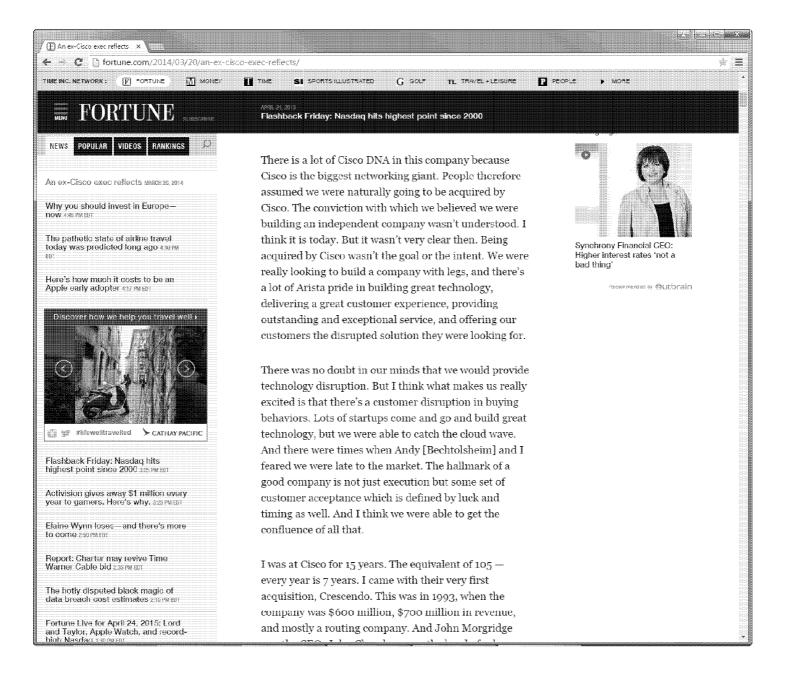


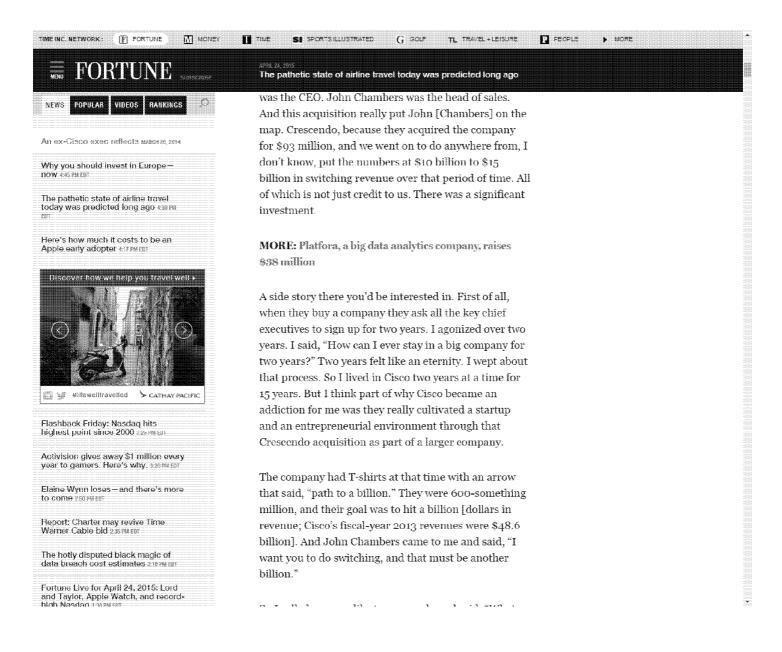
Email: info@aristanetworks.com US & North America Sales: us-sales@aristanetworks.com Latin America Sales: latam-sales@aristanetworks.com Europe, Middle East & Africa Sales: emea-sales@aristanetworks.com Asia-Pacific Sales: apac-sales@aristanetworks.com Japan Sales: japan-sales@aristanetworks.com

© Copyright 2013 by Network World, Inc., Southborough, MA 01772-9108 • Posted from Network World.com • Trademark is owned by International Data Group, Inc. #C18171 Managed by The YGS Group, 800.290.5460. For more information visit www.theYGSgroup.com/content

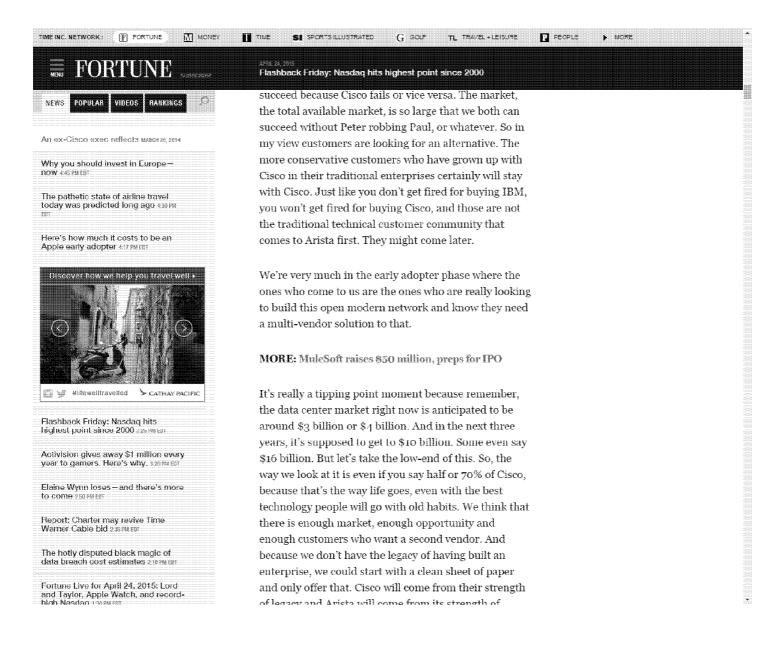
EXHIBIT A9











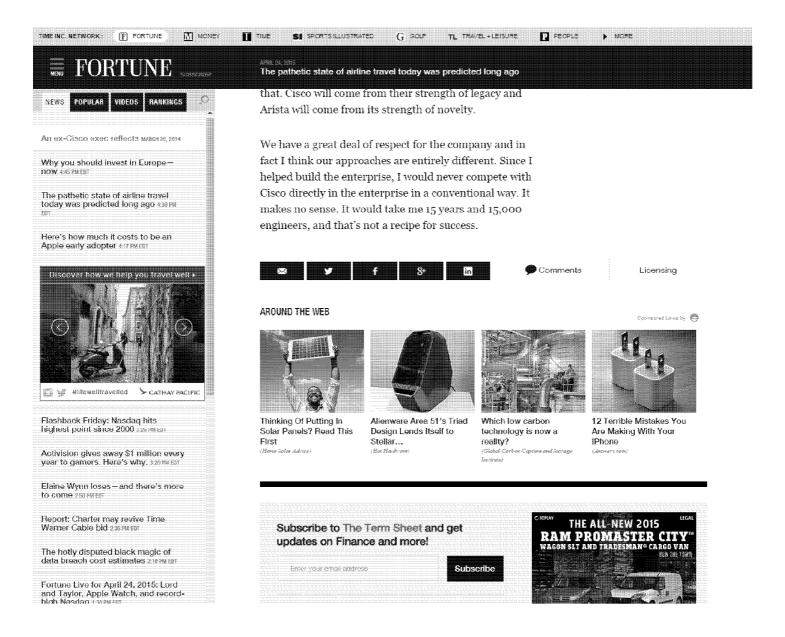


EXHIBIT A10

REDACTED VERSION OF DOCUMENT SOUGHT TO BE SEALED

Redacted in its Entirety